



2024 - 2025

AFOQT

AIR FORCE OFFICER QUALIFYING TEST



- ✓ AFOQT Study Guide
- ✓ Over 600 Practice Questions
- ✓ Tips and Tricks for Air Force Officer Qualifying Test



AFOQT STUDY GUIDE

Over 600 Practice Questions

Tips and Tricks for Air Force Officer Qualifying Test

LMBL TEST

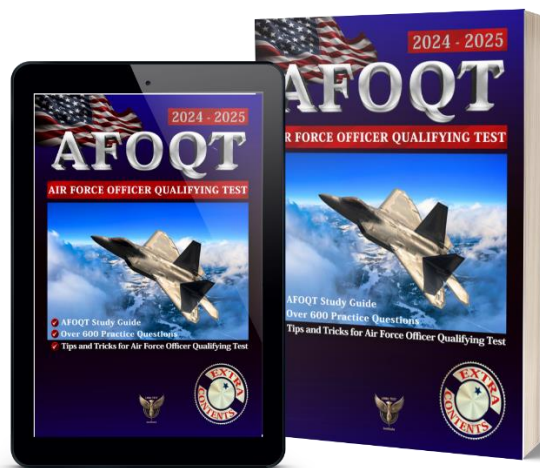
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Introduction

In the quest to pursue a career as an Air Force officer, one pivotal hurdle stands in the path of many aspirants—the AFOQT. This comprehensive examination serves as a fundamental assessment tool, evaluating candidates' knowledge, aptitude, and potential to lead within the esteemed ranks of the US Air Force.

The objective of this guide, "AFOQT 2024-2025 Study Guide," is to provide a comprehensive resource that not only aids in passing the AFOQT but also fosters a deep understanding of the concepts and strategies necessary to excel in this crucial examination. The purpose is not solely to navigate through the exam questions but to equip candidates with the skills and confidence essential for a successful career as an Air Force officer.

Objective and Purpose of the Guide

The primary objective of "AFOQT 2024-2025 Study Guide" is to demystify the complexities of the test, breaking down each section and concept into digestible portions. Through this approach, the book aims to:

Provide Comprehensive Coverage: This guide offers a thorough exploration of every segment of the AFOQT, from Verbal Analogies to Aviation and Navigational Ability, ensuring candidates are well-prepared for every facet of the exam.

Offer Strategic Guidance: It delivers strategic methodologies and test-taking strategies that go beyond mere memorization, empowering candidates to approach questions systematically and efficiently.

Promote Understanding Over Rote Learning: Instead of focusing solely on memorizing facts, "AFOQT 2024-2025 Study Guide" emphasizes understanding core concepts. This approach fosters a deeper grasp of the material, enabling candidates to tackle even the most challenging questions.

Address Mental Preparedness: Recognizing the psychological aspect of test-taking, the guide includes tips and techniques to manage test anxiety, maintain focus, and develop a positive mindset for peak performance on exam day.

Facilitate Practice and Reinforcement: Through ample practice exercises and real-world examples mirroring the AFOQT's difficulty level, this guide aims to reinforce learning and improve proficiency, giving candidates the confidence they need to excel.

Who is This Book Aimed At?

"AFOQT 2024-2025 Study Guide" is crafted for a diverse audience, catering to individuals at various stages of their AFOQT preparation journey:

- 1. Prospective Air Force Officer Candidates:** For those embarking on their journey toward becoming Air Force officers, whether fresh recruits or students aspiring to commission through Officer Training School or the Air Force Academy, this guide provides the foundational knowledge and strategies required to succeed.

Experienced Candidates Seeking Improvement: Even candidates with prior experience or those who have attempted the AFOQT before can benefit. The book offers a chance to refine their skills, address weak areas, and elevate their performance to achieve better results.

Anyone Preparing for AFOQT: It's not limited to candidates exclusively aiming for an Air Force career. Civilians interested in understanding the scope and challenges of the AFOQT or contemplating a military career in general can also benefit from the comprehensive insights and strategies presented in this guide.

In essence, "AFOQT 2024-2025 Study Guide" serves as a comprehensive, accessible resource for anyone determined to succeed in this critical examination and embark on a fulfilling career as an Air Force officer. Whether you're starting from scratch or aiming to polish existing skills, this guide aims to be your ultimate companion on the journey to AFOQT success.

Chapter 1:

Overview of the AFOQT

The AFOQT represents a critical milestone for individuals aspiring to serve as officers in the USAF. This comprehensive examination serves as a crucial assessment tool, evaluating candidates' cognitive abilities, academic knowledge, and leadership potential. In this detailed overview, we will explore the historical evolution of the AFOQT, its significance in aviation careers, the test's structure, the scoring system, and the essential prerequisites for aspiring test-takers.

History and Evolution of the Test

AFOQT has a storied history intertwined with the development of the USAF and the ever-evolving demands placed on its officers. Tracing its origins back to the early 1950s, the AFOQT emerged as a response to the escalating complexities of aviation technology and the critical need to identify individuals with the intellectual capabilities and leadership potential essential for effective officer roles within the Air Force.

During its inception, the primary objective of the AFOQT was to evaluate basic aptitudes and cognitive abilities necessary for aspiring officers. The test aimed to assess candidates' verbal and mathematical reasoning skills, spatial awareness, and general academic knowledge. As the nature of warfare and aviation technology evolved, so did the demands placed on Air Force officers. This necessitated adaptations to the AFOQT to ensure that it effectively evaluated the broader skill sets required for leadership in an ever-changing military landscape.

Throughout the years, the AFOQT underwent numerous revisions and refinements. These changes were driven by a desire to align the test with the evolving roles and responsibilities of Air Force officers, incorporating sections that assessed a wider array of competencies essential for effective leadership and decision-making within the USAF.

The evolution of the AFOQT reflects the dynamic nature of military operations, technological advancements in aviation, and the changing needs of the Air Force. The test transformed from a rudimentary assessment of basic aptitudes to a comprehensive evaluation that encompasses

various sections designed to gauge candidates' cognitive abilities, academic knowledge, and leadership potential.

The revised versions of the AFOQT incorporated additional sections tailored to specific career paths within the Air Force. For instance, candidates aspiring to become pilots faced sections focusing on spatial orientation, aircraft systems, and aviation-related concepts. Similarly, individuals aiming for roles as combat systems officers or air battle managers encountered sections aligned with the specific skill sets required for their respective positions within the USAF.

Moreover, the AFOQT evolved to reflect advancements in educational assessment methodologies, incorporating modern testing techniques and tools to provide a more accurate evaluation of candidates' capabilities. This evolution aimed to ensure that the test remains relevant and effective in identifying individuals with the potential to excel as officers in the dynamic and demanding environment of the Air Force.

The continuous refinement of the AFOQT signifies the commitment of the USAF to recruit and develop competent leaders capable of navigating the multifaceted challenges inherent in military aviation. Its evolution mirrors the Air Force's dedication to maintaining a highly skilled and adaptive officer corps capable of meeting the evolving demands of national defense.

The Importance of AFOQT in Aviation Career

AFOQT serves as a pivotal benchmark for individuals aspiring to forge careers in aviation within the United States Air Force. Its significance extends far beyond being a mere assessment, playing a multifaceted role in candidate selection, career trajectory, leadership development, and the overall effectiveness of the Air Force.

Gateway to Officer Candidacy

The AFOQT stands as a gateway for individuals aiming to pursue officer roles within the USAF. It serves as an initial criterion for entry into various officer training programs and sets the foundation for assessing candidates' suitability for assuming leadership roles within the Air Force. Through its comprehensive evaluation of cognitive abilities, academic knowledge, and leadership potential, the AFOQT acts as a preliminary determinant of an individual's candidacy for officer roles.

Assessment of Cognitive Abilities

Central to the AFOQT's significance is its role in assessing candidates' cognitive abilities essential for effective leadership within the Air Force. The test evaluates various cognitive domains, comprising verbal reasoning, quantitative aptitude, mathematical proficiency, spatial awareness, and comprehension of aviation-related concepts. These skills are integral to an officer's decision-making, problem-solving capabilities, and operational success within the dynamic and complex landscape of military aviation.

Determining Eligibility and Career Trajectory

The outcomes of the AFOQT wield substantial influence over candidates' eligibility for different officer career paths within the Air Force. High scores not only enhance a candidate's competitiveness but also broaden the spectrum of career opportunities available. Performance in the AFOQT serves as a fundamental criterion for selection boards, guiding them in identifying candidates possessing the cognitive abilities and leadership qualities required for various specialized roles within the USAF, such as pilots, combat systems officers, air battle managers, and more.

Competitive Edge in Selection

Scoring well in the AFOQT provides candidates with a competitive advantage in the highly competitive environment of officer selection within the Air Force. Exceptional performance distinguishes individuals from their peers, positioning them as standout candidates for coveted officer positions. The test results serve as a testament to a candidate's potential for assuming leadership roles, effectively influencing their prospects in the selection process.

Career Advancement and Leadership Opportunities

The significance of the AFOQT transcends the initial stages of candidacy. As officers progress through their careers within the Air Force, the relevance of their AFOQT scores endures. High scores not only open doors to advanced training programs but also play a role in specialized assignments, leadership opportunities, and even promotions within the ranks of the Air Force. Demonstrated cognitive abilities and leadership potential, as evidenced through AFOQT scores, continue to impact an officer's career trajectory and advancement prospects.

Alignment with Air Force Core Values

The AFOQT evaluation criteria align closely with the core values of the Air Force. Candidates who perform well in the test often exhibit qualities such as integrity, service before self, excellence, and a commitment to the Air Force's mission. This alignment ensures that officers selected based on their AFOQT performance are not just proficient in cognitive abilities but also embody the ethical and professional standards crucial to the Air Force's success.

General Structure of the Test

The structure of the AFOQT encompasses various sections, each meticulously designed to assess specific cognitive abilities, academic knowledge, and aptitudes relevant to the roles and responsibilities of Air Force officers. Understanding the test's structure is crucial for candidates preparing to undertake this comprehensive examination, as it provides insights into the diverse areas evaluated and the skills required for successful performance.

Verbal Analogies

The Verbal Analogies section of the AFOQT evaluates candidates' verbal reasoning abilities. It presents pairs of words and requires individuals to identify the relationship among them. Success in this section relies on the candidate's ability to recognize and apply logical connections, linguistic nuances, and patterns in word relationships. Proficiency in this segment demonstrates an individual's capacity for critical thinking, deductive reasoning, and linguistic comprehension.

Arithmetic Reasoning

The Arithmetic Reasoning section assesses candidates' mathematical problem-solving skills. This segment features questions that require candidates to apply arithmetic operations, solve mathematical problems, and analyze numerical information. Candidates are tested on their ability to comprehend mathematical concepts, perform calculations accurately, and derive solutions within a stipulated timeframe. Mastery in this section reflects a candidate's quantitative aptitude, numerical reasoning, and mathematical proficiency essential for effective decision-making.

Word Knowledge

The Word Knowledge section evaluates candidates' vocabulary and language proficiency. It presents a series of words, requiring candidates to select synonyms or antonyms, determine word meanings, or comprehend contextual usage. Proficiency in this segment demonstrates an

individual's command over language, lexical diversity, and the ability to comprehend and manipulate words effectively—an attribute crucial for effective communication and comprehension within the Air Force environment.

Math Knowledge

Distinct from Arithmetic Reasoning, the Math Knowledge section focuses on assessing candidates' grasp of mathematical concepts, formulas, and principles. Questions in this segment encompass a broader scope, testing candidates' understanding of algebra, geometry, trigonometry, and other mathematical disciplines. Proficiency in Math Knowledge demonstrates not just computational skills but also a deeper comprehension of mathematical principles—essential for roles demanding technical acumen within the Air Force.

Instrument Comprehension

The Instrument Comprehension section evaluates candidates' ability to interpret and comprehend instrument displays commonly found in aircraft. It presents diagrams, gauges, and instrument panels, requiring candidates to analyze and deduce information regarding aircraft instruments, systems, and operational statuses. Proficiency in this section indicates an individual's aptitude for spatial visualization, critical interpretation of visual data, and comprehension of complex instrumentation—a skillset vital for aviation-related roles within the Air Force.

Table Reading

The Table Reading section assesses candidates' ability to extract information from tables, charts, and graphs—a skill essential for interpreting and analyzing data in various formats. Candidates are presented with graphical representations and are tasked with answering questions that test their ability to interpret data accurately, draw conclusions, and extract relevant information efficiently. Proficiency in this segment indicates a candidate's capability to comprehend and analyze visual data—a skill applicable across multiple domains within the Air Force.

Aviation Information

The Aviation Information section focuses on evaluating candidates' knowledge of aviation-related concepts, principles, and terminology. Questions in this segment cover various aspects of aviation, comprising aerodynamics, flight principles, aircraft systems, navigation, and aviation history. Proficiency in Aviation Information demonstrates a candidate's understanding of fundamental

aviation concepts, which is crucial for roles concerning aviation operations, navigation, and management within the Air Force.

Block Counting

Candidates' spatial awareness, as well as their capacity to mentally control and envision things in space, are evaluated during the Block Counting phase of the exams. It presents sets of blocks arranged in different configurations and requires candidates to identify the total no. of blocks within specific patterns or figures. Success in this segment demonstrates an individual's capacity for spatial reasoning, mental manipulation, and visualization—a crucial skillset for roles concerning spatial orientation and situational awareness, particularly in aviation-related contexts.

Self-Description Inventory

The Self-Description Inventory (SDI) section assesses candidates' self-perceptions, personality traits, and behavioral tendencies. It presents a series of statements or scenarios and requires candidates to select responses that align with their self-perceptions or behavioral inclinations. This segment aims to gauge aspects of an individual's personality, work preferences, social interactions, and personal values. Understanding one's self-perceptions and aligning them with the demands of Air Force officer roles contributes to effective teamwork, leadership, and decision-making.

Physical Science

The Physical Science section evaluates candidates' knowledge of fundamental concepts in physics and chemistry. Questions in this segment cover topics such as mechanics, thermodynamics, electricity, magnetism, atomic structure, and chemical reactions. Proficiency in Physical Science indicates a candidate's understanding of fundamental scientific principles—a skill relevant for roles that involve technical problem-solving, critical analysis, and decision-making in various operational scenarios within the Air Force.

Reading Comprehension

The Reading Comprehension section assesses candidates' ability to comprehend and analyze written passages effectively. It presents passages covering diverse topics and requires candidates to answer questions that test their understanding, inference-making, and critical analysis of the presented material. Proficiency in this section demonstrates an individual's reading comprehension skills, the ability to extract information, discern main ideas, and draw

conclusions—an essential skill for officers who must digest and analyze complex information in various contexts.

Situational Judgment Test

The Situational Judgment Test (SJT) section presents candidates with scenarios or situations commonly encountered in the Air Force environment. It requires candidates to assess the situations and select responses that align with effective problem-solving, ethical decision-making, and leadership principles. Proficiency in this segment reflects a candidate's ability to apply sound judgment, ethical reasoning, and leadership qualities in challenging and dynamic situations—an indispensable skillset for Air Force officers in decision-making roles.

Scoring and Evaluation System

The AFOQT employs a scoring system that assesses candidates' performance across the diverse sections of the test. Scores are reported in percentiles, comparing an individual's performance against that of other test-takers. This percentile-based scoring system aids in ranking candidates' performance relative to their peers, providing a standardized method of evaluation.

Each section of the AFOQT is scored individually, reflecting a candidate's proficiency in specific cognitive domains, academic knowledge, and aptitudes relevant to Air Force officer roles. The cumulative scores across all sections contribute to an overall AFOQT score, which serves as an indicator of an individual's overall performance on the test.

Evaluation Criteria

The evaluation criteria for the AFOQT encompass a range of cognitive abilities, academic knowledge, and skills vital for effective leadership and decision-making within the Air Force. The test is designed to assess candidates' proficiency in verbal reasoning, quantitative aptitude, mathematical knowledge, spatial awareness, comprehension of aviation-related concepts, and more.

The scoring criteria for each section are tailored to assess specific competencies aligned with the demands of Air Force officer roles. For instance, the Verbal Analogies section evaluates candidates' logical reasoning abilities, while the Instrument Comprehension section assesses their ability to interpret and analyze aircraft instrument displays. Proficiency in each section contributes to an overall assessment of a candidate's suitability for officer positions within the Air Force.

Percentile Scores

AFOQT scores are reported in percentiles, comparing an individual's performance against that of other test-takers. A percentile score indicates the percentage of candidates who scored at or below a particular individual. For instance, a candidate in the 75th percentile performed as well as or better than 75% of the candidates who took the test.

Percentile scores offer a standardized measure of a candidate's performance relative to their peers. Higher percentile scores indicate superior performance compared to a larger proportion of test-takers and often enhance a candidate's competitiveness in the selection process for officer roles within the Air Force.

Impact on Career Prospects

The scores obtained in the AFOQT significantly influence candidates' career prospects within the United States Air Force. High scores not only enhance a candidate's competitiveness but also broaden the spectrum of career opportunities available within the USAF. A strong performance in the AFOQT serves as an indicator of a candidate's potential for assuming leadership roles, influencing their career trajectory and prospects for specialized roles within the Air Force.

The AFOQT scores play a crucial role in determining eligibility for various officer career paths within the Air Force, like pilot, combat systems officer, air battle manager, and more. Exceptional scores can lead to opportunities for advanced training programs, specialized assignments, and leadership positions within the ranks of the Air Force.

Interpretation of Scores

Interpreting AFOQT scores requires an understanding of the percentile ranking system and its implications. Higher percentile scores indicate superior performance relative to other test-takers. Candidates achieving scores in higher percentiles demonstrate proficiency in the evaluated domains, showcasing their cognitive abilities, academic knowledge, and suitability for officer roles within the Air Force.

Required Requirements

Understanding the required requirements for the AFOQT is fundamental for individuals aspiring to pursue careers as officers within the United States Air Force (USAF). These prerequisites encompass a range of eligibility criteria, educational qualifications, citizenship requirements, age

restrictions, and other essential guidelines established by the Air Force Personnel Center (AFPC). Delving into the specifics of these requirements provides candidates with a clear roadmap towards AFOQT eligibility and eventual officer candidacy within the Air Force.

1. Citizenship Status

The AFOQT is primarily available to individuals who are citizens of the United States. The eligibility criteria typically mandate that candidates must hold U.S. citizenship to qualify for taking the test. Non-citizens or individuals holding other citizenships may not be eligible to take the AFOQT unless they acquire U.S. citizenship before the test date.

Educational Qualifications

Candidates aspiring to take the AFOQT must meet specific educational prerequisites outlined by the Air Force. While the exact educational requirements may vary based on the desired officer career path within the USAF, the majority of applicants must have a bachelor's degree or higher from an institution that has been conferred with accreditation. The degree should be in a field relevant to the Air Force or the specific officer career track the candidate aims to pursue. In some cases, candidates may also be required to have completed specific coursework or possess^o in science, technology, engineering, mathematics (STEM), or other related fields.

Age Requirements

There are age restrictions for candidates planning to take the AFOQT. Typically, candidates should be within a certain age range to qualify for the test. The age requirements might vary based on the specific officer career field within the Air Force. Generally, candidates need to be within a certain age bracket, usually among 18 and 35 years old, although exceptions and variations exist for certain career tracks or programs within the USAF.

Physical and Medical Standards

Candidates must meet specific physical and medical standards established by the Air Force. These standards ensure that candidates possess the physical fitness and medical health necessary to fulfill the duties and responsibilities of an Air Force officer. Physical requirements may include vision standards, hearing capabilities, cardiovascular fitness, body composition standards, and overall health assessments.

Background Checks and Security Clearance

Individuals aiming to become Air Force officers must undergo background checks and security clearance procedures. This process involves evaluating a candidate's criminal history, financial records, and other background information. The USAF ensures that candidates meet the security clearance requirements essential for handling sensitive information, maintaining national security, and upholding the standards of trust and integrity expected from Air Force officers.

Additional Requirements for Specialized Career Paths

Specific officer career paths within the Air Force may have additional requirements beyond the general prerequisites. For instance, candidates aspiring to become pilots might need to fulfill aviation-specific criteria, such as meeting flying hour requirements, possessing specific licenses or certifications, or meeting stringent physical and medical standards related to flying duties. Similarly, candidates aiming for roles in specialized fields like engineering, intelligence, or cyber operations might need to satisfy specific educational, technical, or experiential prerequisites tailored to those career tracks.

Character and Leadership Attributes

Apart from meeting the educational and physical criteria, candidates are expected to possess strong character, leadership qualities, and a commitment to upholding the core values of the Air Force. These attributes are assessed through various means, comprising interviews, recommendation letters, and evaluations during the selection process. The USAF seeks individuals who embody integrity, ethical behavior, teamwork, leadership potential, and a dedication to serving their country.

Preparation and Readiness

Candidates must demonstrate their readiness and commitment to preparing for the AFOQT. This preparation involves studying the required materials, familiarizing themselves with the test format, and ensuring they meet the necessary criteria before registering for the exam. Adequate preparation showcases a candidate's dedication, readiness, and seriousness about pursuing a career as an Air Force officer.

Chapter 2:

Comparison of AFOQT, SAT, ACT and GRE

Comparing the AFOQT to college admission tests like the SAT, ACT, and GRE involves exploring their similarities, differences, and the ways in which preparation for college tests can aid in readiness for the AFOQT. Let's delve into the detailed comparison:

Similarities and Differences

Similarities

- 1. Standardized Format and Structure:** The AFOQT, SAT, ACT, and GRE share a standardized testing format, presenting multiple-choice questions across various sections. They all adhere to predetermined structures with designated sections aimed at assessing specific skills or knowledge domains.

Test-Taking Skills Emphasis: Success in these tests often relies on essential test-taking skills like time management, critical thinking, problem-solving, and effective strategies for approaching multiple-choice questions. The importance of these skills is evident across the AFOQT, SAT, ACT, and GRE.

Academic Skills Assessment: While tailored for different purposes, all these tests evaluate academic skills to various extents. The AFOQT, besides assessing leadership potential and aviation-related knowledge, also encompasses academic elements such as math knowledge, verbal analogies, and reading comprehension.

Preparation Significance: Preparation plays a vital role in achieving competitive scores across these standardized tests. Candidates typically engage in studying content areas, practicing with sample questions, and familiarizing themselves with the test format and question types.

Differences

Purpose and Target Audience:

- ⟨ **AFOQT:** Geared explicitly towards individuals aspiring to become officers in the United States Air Force, evaluating cognitive abilities, leadership potential, and aptitudes pertinent to Air Force roles.
- ⟨ **SAT and ACT:** Aimed at high school students seeking admission to undergraduate programs, assessing academic readiness for college.
- ⟨ **GRE:** Designed for candidates applying to graduate schools, evaluating readiness for advanced academic studies.

Content and Skill Emphasis:

- ⟨ **AFOQT:** The AFOQT's unique sections, such as aviation information and instrument comprehension, focus on skills specifically relevant to Air Force officer roles.
- ⟨ **SAT and ACT:** Emphasize high school academic skills, comprising math, reading, writing, and language proficiency.
- ⟨ **GRE:** Focuses on skills required for graduate-level studies, testing verbal reasoning, quantitative reasoning, analytical writing, and subject-specific knowledge in certain fields.

Scoring Systems and Utilization:

- ⟨ **AFOQT:** Utilizes a percentile-based scoring system, comparing candidates' performance against others and impacting career opportunities within the Air Force.
- ⟨ **SAT and ACT:** Employ scaled scores, used by colleges as part of their admissions criteria.
- ⟨ **GRE:** Also utilizes scaled scores, used by graduate schools as part of their admissions criteria.

Preparation Materials and Resources:

- ⟨ **AFOQT:** Preparation materials are tailored specifically to the AFOQT, incorporating aviation-related content and officer aptitude assessments.
- ⟨ **SAT and ACT:** Test preparation resources cater to high school students, offering study guides, practice tests, courses, and tutors.
- ⟨ **GRE:** Prep materials are focused on graduate-level studies, offering practice tests, prep books, and courses aimed at graduate school applicants.

Significance of Understanding Similarities and Differences

The AFOQT, uniquely designed for Air Force officer selection, stands apart due to its specialized sections that assess aviation-related knowledge, leadership potential, and officer aptitude. While the other tests focus on academic readiness and knowledge relevant to college studies, the AFOQT

dives into skills specifically required for Air Force roles. Its scoring system impacts career opportunities within the military, distinguishing it significantly from other standardized tests used in educational admissions.

Understanding these distinctions assists candidates in focusing their study efforts on the specific areas assessed by the AFOQT. While test-taking skills are transferable, recognizing the AFOQT's specialized content allows candidates to prepare with precision, utilizing study materials and resources tailored explicitly to officer aptitude, aviation knowledge, and leadership assessments.

How College Tests Can Help Prep for the AFOQT

Understanding how college entrance exams such as the SAT, ACT, and GRE can aid in preparing for the AFOQT involves recognizing the shared skill sets, test-taking strategies, and academic foundations that can benefit candidates aiming to excel in both types of assessments.

1. Development of Foundational Skills

Mathematics: College entrance exams like the SAT and ACT assess math proficiency. Reviewing and reinforcing foundational math concepts through SAT or ACT preparation can benefit AFOQT candidates, as both tests evaluate arithmetic reasoning and mathematical knowledge. Strengthening skills in algebra, geometry, and trigonometry can prove advantageous for the AFOQT's math knowledge section.

Reading and Comprehension: The SAT, ACT, and GRE emphasize reading comprehension. Acquiring strong reading skills, extracting key information, and understanding context can assist AFOQT candidates in the verbal analogies and reading comprehension sections, which evaluate linguistic comprehension and critical reasoning.

Writing Skills: The SAT and ACT require essay writing, whereas the GRE assesses analytical writing. Enhancing essay-writing skills for coherence, structure, and clarity can benefit AFOQT candidates, especially in the verbal sections that gauge written communication abilities.

Test-Taking Strategies and Time Management

Time Management: College entrance exams have strict time constraints, similar to the AFOQT. Practicing effective time management strategies while preparing for the SAT, ACT, or GRE can help candidates develop the ability to pace themselves through various test sections, a crucial skill required for success in the AFOQT.

Elimination Techniques and Strategic Guessing: The SAT, ACT, and GRE often require strategic guessing and elimination of incorrect choices. Learning these tactics during college test preparation can aid AFOQT candidates in cases where they encounter challenging questions or need to make educated guesses.

Familiarity with Standardized Test Formats

Engaging in SAT, ACT, or GRE preparation familiarizes candidates with standardized test formats, question types, and exam structures. This familiarity can reduce test anxiety and help candidates feel more comfortable when approaching the AFOQT, allowing them to focus more on content and less on test logistics.

Critical Thinking and Problem-Solving

The SAT, ACT, and GRE assess critical thinking and problem-solving abilities. These skills are transferable to the AFOQT, especially in sections such as verbal analogies and instrument comprehension, where logical reasoning and problem-solving play vital roles.

Study Habits and Discipline

Preparing for college entrance exams requires disciplined study habits and consistent practice. Adopting effective study routines and disciplined preparation for the SAT, ACT, or GRE can translate into similar habits for AFOQT readiness, ensuring candidates approach their preparation with dedication and consistency.

Acquiring Test-Taking Confidence

Successfully navigating college entrance exams builds confidence in test-taking abilities. This confidence can carry over to AFOQT preparation, providing candidates with the assurance that they have acquired the necessary skills and strategies to approach the test confidently.

Chapter 3:

Detailed Test Structure

Let's delve into the detailed test structure of the AFOQT, which comprises 12 sections, each assessing different skills and knowledge domains. Additionally, we'll explore the no. of questions, time limits for each section, and the significance of the Self-Description Inventory (SDI) within the AFOQT.

Description of the 12 Sections

Here is a detailed breakdown of each section in the AFOQT, highlighting their content, objectives, and the skills they aim to assess:

- 1. Self-Inventory Description:** The Self-Inventory Description section evaluates candidates' self-perceptions, personality traits, behavioral tendencies, and preferences. Candidates respond to a series of statements or scenarios, providing insights into their personality, attitudes, and values. This section aids in evaluating candidates' compatibility with Air Force roles, teamwork, and leadership styles by assessing non-cognitive attributes essential for effective officer performance.

Verbal Analogies: Verbal Analogies assess candidates' verbal reasoning and their ability to recognize relationships among words. Candidates are presented with word pairs and must identify the connection or similarity among them. This section evaluates logical thinking, vocabulary, and the capacity to deduce relationships among concepts.

Arithmetic Reasoning: Arithmetic Reasoning focuses on assessing candidates' mathematical problem-solving skills. Questions involve basic arithmetic concepts such as addition, subtraction, multiplication, division, percentages, fractions, and ratios. Candidates are expected to apply these concepts to solve numerical problems efficiently within the given time frame.

Word Knowledge: This section tests candidates' vocabulary and understanding of word meanings. Candidates encounter words and are required to select the most suitable synonym or definition from the provided options. It evaluates the breadth and depth of candidates' word knowledge, assessing their understanding of language and context.

Mathematical Knowledge: Mathematical Knowledge evaluates candidates' proficiency in advanced mathematical concepts, comprising algebra, geometry, trigonometry, and calculus. Questions cover topics such as equations, functions, geometry theorems, trigonometric identities, derivatives, integrals, and more. It assesses candidates' mastery of higher-level mathematical principles and problem-solving abilities.

Reading Comprehension: Reading Comprehension assesses candidates' ability to understand and analyze written passages. Candidates read passages and answer questions to demonstrate their comprehension, inference, and critical thinking skills.

Situation Judgment: Situation Judgment evaluates candidates' ability to assess situations and make appropriate judgments or decisions. Candidates are presented with scenarios related to leadership, ethics, and decision-making, and they must choose the most suitable course of action.

Physical Science: The Physical Science section assesses candidates' understanding of basic scientific principles in physics and chemistry. Questions cover concepts such as mechanics, thermodynamics, atomic structure, chemical reactions, and more.

Aviation Information: Aviation Information tests candidates' knowledge of aviation-related concepts, principles, and terminology. Topics include aircraft systems, flight principles, aerodynamics, meteorology, navigation, air traffic control, and aviation regulations.

Instrument Comprehension: Instrument Comprehension assesses candidates' ability to interpret and understand aircraft instrument displays, gauges, and readings commonly found in aviation settings.

Table Reading: Table Reading evaluates candidates' ability to extract and interpret information from tables, graphs, and charts. Candidates analyze data presented visually and answer questions based on the information provided.

Block Counting: Block Counting evaluates candidates' spatial awareness and mental manipulation abilities. Candidates determine the no. of blocks present, either visible or hidden within structures, assessing spatial reasoning and mental rotation skills.

Number of Questions and Time Limits for Each Section

AFOQT is an extensive assessment consisting of 550 multiple-choice questions. The examination spans approximately five hrs, encompassing breaks, with a total duration of three hrs and 36 mins

allocated for answering questions. Each section of the exam is carefully timed, with the time limit varying for each subtest, encompassing 12 sections catering to essential skills crucial for entry-level Air Force officers.

- 1. Self-Description Inventory (SDI):** The SDI section is designed to delve into candidates' self-perceptions, personality traits, and behavioral tendencies. With a dedicated time of 45 mins and 220 questions, this segment focuses on evaluating non-cognitive attributes crucial for effective leadership and teamwork within the Air Force.

Verbal Analogies: This section demands quick cognitive analysis, requiring candidates to identify relationships among word pairs within a brief timeframe of 8 mins, answering 25 questions. It evaluates candidates' verbal reasoning and logical thinking abilities.

Arithmetic Reasoning: Candidates are allocated 29 mins to solve 25 arithmetic-related questions that evaluate mathematical problem-solving skills concerning percentages, fractions, ratios, and basic arithmetic concepts.

Word Knowledge: Assessing vocabulary and word understanding, this section expects candidates to answer 25 questions within a brief span of 5 mins, testing their knowledge of word meanings and synonyms.

Math Knowledge: Candidates are provided 22 mins to tackle 25 questions that assess proficiency in advanced mathematical concepts encompassing algebra, geometry, trigonometry, and calculus.

Reading Comprehension: With a time limit of 38 mins and 25 questions, this section evaluates candidates' ability to comprehend and analyze written information, assessing their reading and analytical skills.

Situational Judgment: This segment, taking 35 mins and comprising 50 questions, evaluates candidates' decision-making abilities, ethical reasoning, and responses to hypothetical scenarios simulating real-life situations encountered in officer roles.

Physical Science: This section spans 10 mins and includes 20 questions focusing on fundamental scientific principles from the realm of physical sciences, testing candidates' knowledge across various scientific concepts.

Aviation Information: Candidates are allotted 8 mins to respond to 20 questions that assess their understanding of aviation-related principles, comprising aircraft systems, flight principles, meteorology, navigation, and aviation regulations.

Instrument Comprehension: With a time frame of 8 mins and 25 questions, this section evaluates candidates' ability to interpret and understand information displayed on aircraft instrument panels and gauges.

Table Reading: This section demands quick data interpretation skills within a limited time of 7 mins and includes 40 questions assessing candidates' capacity to extract information from tables, graphs, and charts.

Block Counting: Candidates encounter 30 questions to be answered within a short span of 4.5 mins, assessing spatial awareness and mental manipulation abilities by counting blocks within figures.

Managing time effectively is pivotal in the AFOQT, considering the diverse sections and the limited time available for each. Candidates must develop strategies to approach questions efficiently, prioritize sections based on their strengths, and practice under timed conditions to optimize their performance within the allotted time limits.

The Importance of the Self Description Inventory

The Self-Description Inventory (SDI) within the AFOQT holds substantial significance in assessing candidates' non-cognitive attributes, personality traits, behavioral tendencies, and self-perceptions. Its role extends beyond evaluating cognitive abilities, aiming to gauge the compatibility of candidates with the demands, values, and expectations of Air Force officer roles.

Assessing Non-Cognitive Attributes

The SDI serves as a distinctive component of the AFOQT, focusing on evaluating non-cognitive attributes that play pivotal roles in an officer's effectiveness and success within the United States Air Force. While other sections assess cognitive abilities, the SDI specifically targets traits essential for effective leadership, teamwork, adaptability, and decision-making.

Leadership Potential

One crucial aspect evaluated by the SDI is leadership potential. It examines candidates' self-perceptions regarding leadership qualities, such as initiative, decisiveness, communication skills,

and the ability to inspire and motivate others. This assessment helps identify individuals likely to exhibit leadership behaviors essential for guiding teams and making crucial decisions in high-pressure situations.

Teamwork and Collaboration

Effective teamwork is fundamental within the Air Force environment. The SDI assesses candidates' tendencies towards collaborative work, understanding their inclination towards cooperation, conflict resolution, and contribution within team settings. Candidates demonstrating traits conducive to teamwork and collaboration are deemed valuable assets within the officer corps.

Adaptability and Flexibility

The dynamic nature of Air Force operations demands officers who can adapt swiftly to changing circumstances and environments. The SDI explores candidates' adaptability, flexibility, and openness to new experiences. Individuals exhibiting adaptability traits are better equipped to navigate unpredictable situations and adjust to evolving challenges effectively.

Ethical Decision-Making

The SDI also delves into candidates' ethical decision-making processes. It evaluates their moral compass, integrity, and ethical awareness. Officers are often faced with moral dilemmas and ethical challenges, and the SDI aids in identifying individuals with strong ethical foundations, crucial for upholding the Air Force's values and codes of conduct.

Stress Management and Resilience

The SDI examines candidates' stress management abilities and resilience in handling pressure. Officers operate in high-stress environments, and the assessment of these traits helps identify individuals capable of maintaining composure, making sound decisions under stress, and bouncing back from setbacks effectively.

Alignment with Air Force Core Values: Candidates' self-descriptions within the SDI provide insights into their alignment with the core values of the Air Force, comprising integrity first, service before self, and excellence in all endeavors. Evaluating candidates' self-perceptions regarding these values aids in identifying individuals whose personal beliefs and values align with the Air Force's ethos.

Tailoring Officer Selection

The insights garnered from the SDI contribute significantly to the selection process of Air Force officers. The assessment of non-cognitive attributes complements the evaluation of cognitive abilities, allowing for a more comprehensive and holistic assessment of candidates' overall suitability for officer roles.

Training and Development

Understanding candidates' self-perceptions and behavioral tendencies through the SDI assists in tailoring training and development programs. It helps in identifying areas where candidates may require additional support, guidance, or training to enhance their leadership, teamwork, or decision-making skills, contributing to their professional development within the Air Force.

Cultural Fit and Organizational Cohesion

The SDI also aids in assessing candidates' cultural fit within the Air Force. Identifying individuals whose personality traits and behavioral tendencies align with the Air Force's organizational culture fosters a cohesive and harmonious working environment, promoting teamwork, camaraderie, and mission success.

Chapter 4:

Preparation and Study Strategies

Preparing for the AFOQT requires a comprehensive study plan, optimized study techniques, access to relevant resources, and effective stress management strategies. Here's a detailed discussion on each aspect:

How to Create an Effective Study Plan

Crafting an effective study plan for the AFOQT is pivotal to optimize preparation and maximize your chances of success. Here's a comprehensive guide on creating a strategic study plan:

- 1. Assess Your Current Standing:** Begin by evaluating your current knowledge and skills across the different sections of the AFOQT. Take a practice test or review past academic performance to identify areas of strength and weakness. Understanding where you stand helps in tailoring your study plan.

Set Clear and Achievable Goals: Create goals that are SMART, which stands for specific, measurable, attainable, relevant, and time-bound measures. Clearly outline the objectives for each study session and the overarching goals. Break down these objectives into smaller, manageable tasks tailored to different sections of the test.

Divide Your Study Plan: Segment your study plan into distinct sections, allocating sufficient time to cover each area comprehensively. Consider the weightage of each section in the test and allocate study time accordingly. Prioritize areas where you struggle the most while dedicating time to reinforce your strengths.

Develop a Structured Study Schedule: Create a structured timetable that suits your routine and allows consistent study sessions. Allocate specific time slots for each section or subject, maintaining a balance among different topics to avoid burnout and ensure comprehensive coverage.

Implement Variety in Study Sessions: Alternate among different sections or subjects to maintain engagement and avoid monotony. Mix challenging sections with those you find easier to

sustain motivation. For instance, switch among math problems, verbal reasoning, and practice tests to keep your mind engaged.

Utilize Active Learning Techniques: Engage in active learning methods to enhance retention and understanding. Utilize techniques such as summarizing key concepts, creating flashcards, teaching others, or solving practice questions. Actively engaging with the material fosters better comprehension.

Regular Review and Reinforcement: Schedule periodic review sessions to revisit previously covered material. Regularly review notes, practice questions, or flashcards to reinforce learning. Revisiting topics aids in solidifying knowledge and identifying areas that need further attention.

Adaptability and Flexibility: Maintain flexibility in your study plan. Be open to adjusting schedules based on your progress and evolving needs. If you encounter difficulties in a particular section, allocate additional time without compromising the rest of your plan.

Monitor Progress and Adjust as Needed: Regularly evaluate your progress against your set goals. Track your performance in practice tests or quizzes. If you notice improvement in certain areas or lingering challenges in others, adjust your study plan accordingly to focus on areas that need more attention.

Practice Under Simulated Test Conditions: As the test date approaches, simulate the test environment during practice sessions. Time yourself, replicate test conditions, and work on improving speed and accuracy within the allotted time frames for each section.

Seek Support and Stay Motivated: Join study groups, online forums, or seek guidance from mentors or tutors. Engaging with others preparing for the AFOQT can offer new perspectives and support. Additionally, maintain motivation by reminding yourself of the purpose behind pursuing this career path and visualize the outcome you aspire to achieve.

How to Optimize Study Times

Optimizing study times is crucial when preparing for the AFOQT. Effective time management can significantly enhance productivity and aid in covering all test sections comprehensively. Here's an in-depth exploration of strategies to optimize study times:

1. Embrace Active Learning Techniques

Engaging in active learning methods can significantly boost efficiency during study sessions. Rather than passively reading or reviewing material, actively participate in learning. Utilize techniques such as:

- ◁ **Practice Questions and Problems:** Solve practice questions and problems related to each section. Actively engaging with the content aids in better understanding and retention.
- ◁ **Concept Summarization:** Summarize key concepts in your own words. Creating summaries or outlines helps in consolidating information and reinforces learning.
- ◁ **Teaching Others:** Teach concepts to someone else. Explaining topics or concepts to others forces a deeper understanding of the material.

Implement the Pomodoro Technique

Working as part of the Pomodoro Technique entails taking little rests in among periods of concentrated concentration. Allocate 25 mins of focused study time followed by a 5-minute break. After completing four cycles, take a longer break (E.g., 15-30 mins). This technique enhances focus and prevents burnout.

Prioritize and Strategize

Identify sections or subjects that require more attention based on your initial assessment. Allocate more study time to challenging areas while ensuring a balanced approach across all sections. For instance, if math knowledge is a weaker area, allocate more study sessions to enhance your understanding.

Create a Study Routine

You ought to create an ongoing study routine that's in line with your daily schedule and the hrs during which you are most productive. Designate specific times for studying each section, ensuring that you maintain a regular and structured approach.

Utilize Technology Effectively

Leverage technology tools to aid in your preparation:

- ◁ **Study Apps and Tools:** Explore various study apps and online tools specifically designed for AFOQT preparation. These may include flashcard apps, practice test platforms, or study planners to help organize your schedule.

- ◁ **Digital Resources:** Access online resources, e-books, instructional videos, and interactive study materials. These resources can provide additional explanations and diverse perspectives on complex topics.

Break Content into Digestible Portions

Divide study material into smaller, manageable portions. Chunking information into smaller segments allows for better absorption and retention. Tackle one concept or topic at a time to maintain focus and avoid feeling overwhelmed.

Regular Review and Revision

Schedule regular review sessions to revisit previously studied material. This repetition aids in reinforcing learning and retaining information. Establish a review schedule that allocates specific time slots for revisiting each section periodically.

Simulated Practice Tests

Incorporate practice tests into your study routine. Take simulated practice tests under timed conditions to mimic the actual test environment. This approach helps in familiarizing yourself with the test format, enhancing time management skills, and identifying areas that need improvement.

Stay Organized and Minimize Distractions

Create a conducive study environment by organizing your study space and minimizing distractions. Clear away clutter, silence unnecessary notifications, and create a dedicated space conducive to focused study sessions.

Monitor Progress and Adapt Accordingly

Regularly assess your progress and adapt your study plan based on performance. If you notice improvement in certain areas or lingering challenges in others, adjust study times to focus on areas needing further attention.

Useful Resources and Materials

Access to diverse and quality resources is instrumental in preparing for the AFOQT. A comprehensive arsenal of study materials and resources significantly enhances the effectiveness of preparation. Here's a detailed exploration of useful resources and materials:

1. Official AFOQT Study Guides: Official study guides provided by the Air Force or reputable publishers serve as foundational resources. These guides offer comprehensive coverage of test content, sample questions, test-taking strategies, and insights into the test structure. They are tailored specifically to align with the AFOQT's format and can provide a solid foundation for your preparation.

Online Practice Tests and Resources: Numerous online platforms offer practice tests, questions, and study materials tailored for AFOQT preparation. Websites, forums, and online communities dedicated to military entrance exams provide access to a wealth of resources. These platforms often offer timed practice tests, detailed explanations for answers, and forums where candidates can discuss strategies and seek guidance.

Books and Textbooks: Subject-specific books and textbooks covering relevant areas tested in the AFOQT can serve as valuable resources. Textbooks on mathematics, physics, aviation, verbal reasoning, and other subjects can offer in-depth coverage of topics, providing additional explanations and practice problems. Look for reputable titles that align with the AFOQT syllabus to supplement your study materials.

Educational Websites and Videos: Online educational platforms, such as Khan Academy, Coursera, or YouTube channels dedicated to academic subjects, offer video lectures, tutorials, and explanatory videos. These resources can aid in understanding complex concepts, providing visual explanations and alternative perspectives on various topics tested in the AFOQT.

Flashcards and Memory Aids: Creating your own flashcards or utilizing digital flashcard apps can aid in memorizing key concepts, definitions, formulas, and vocabulary. Flashcards are portable, easily customizable, and efficient tools for reviewing and reinforcing information, especially for sections like word knowledge and definitions.

Study Groups and Forums: Joining study groups or online forums devoted to AFOQT preparation allows for collaboration and knowledge sharing. Engaging with peers, sharing study strategies, discussing challenging topics, and seeking advice from those who have successfully passed the exam can provide valuable insights and support.

Military Publications and Journals: Explore military publications, journals, and articles related to aviation, military history, and current affairs. These resources offer insights into aviation-related topics, technological advancements, and updates within the military domain, which might be relevant for sections like aviation information and general knowledge.

Tutoring and Mentorship Programs: Consider seeking guidance from experienced tutors or mentors specializing in AFOQT preparation. Tutoring services or mentorship programs provide personalized guidance, strategies, and tailored study plans based on individual strengths and weaknesses.

AFOQT Study Apps and Tools: Utilize dedicated mobile apps and online tools specifically designed for AFOQT preparation. These apps often include practice questions, quizzes, timers, and progress tracking features, making studying more interactive and convenient.

Previous Test Papers and Review Materials: Accessing previous years' AFOQT test papers, if available, and review materials from reputable sources can provide insights into question patterns, difficulty levels, and the overall test structure. While these may not reflect the exact content of the current exam, they can be beneficial for practice and familiarization.

Test Prep Courses and Workshops: Consider enrolling in test prep courses or workshops offered by educational institutions, test preparation centers, or online platforms. These courses provide structured study plans, expert guidance, and simulated practice tests, enhancing preparation and test-taking strategies.

Practical Advice and Stress Management

Navigating the preparation phase for the AFOQT requires not only academic readiness but also effective stress management and practical strategies to maintain focus and well-being. Here's an in-depth exploration of practical advice and stress management techniques tailored for AFOQT preparation:

- 1. Establish a Structured Study Routine:** Creating a well-organized and structured study routine is foundational. Allocate specific time slots for studying each section or subject, ensuring a balanced approach. Consistency in studying regularly will help build momentum and enhance retention of information.

Prioritize Self-Care and Health: Maintaining physical health significantly impacts mental acuity and cognitive performance. Ensure adequate sleep, regular exercise, and a balanced diet. Prioritizing self-care contributes to overall well-being and optimizes cognitive functioning, essential for effective studying.

Break Content into Manageable Portions: Divide study material into smaller, manageable portions to prevent feeling overwhelmed. Tackling smaller segments allows for better focus and concentration, promoting a more efficient learning process.

Practice Mindfulness and Relaxation Techniques: Incorporate mindfulness, deep breathing exercises, or meditation into your routine to manage stress and improve concentration. Practicing relaxation techniques regularly can help alleviate anxiety and promote a calm and focused mindset.

Maintain a Positive Mindset: Maintain a positive and optimistic outlook throughout your preparation. Celebrate small victories, acknowledge progress, and avoid being too critical of setbacks. A positive mindset contributes to resilience and motivation.

Create a Distraction-Free Study Environment: Designate a quiet and organized study space to minimize distractions. Ensure your study area is conducive to concentration and focus. Eliminating distractions aids in maintaining sustained attention during study sessions.

Utilize Time Management Techniques: Utilize efficient time management methods like the Pomodoro Technique to maximize study sessions. Allocate specific time blocks for concentrated studying, interspersed with brief breaks, to boost productivity and mitigate exhaustion.

Stay Organized and Plan Ahead: Maintain an organized study plan and keep track of progress. Use planners, calendars, or digital tools to organize study schedules, set goals, and track accomplishments. Planning ahead allows for efficient use of study time.

Balance Study and Relaxation: Avoid excessive study without breaks. Incorporate leisure activities, hobbies, or relaxation techniques into your routine to recharge and prevent mental fatigue. Balancing study with relaxation maintains motivation and prevents burnout.

Seek Support and Guidance: Engage with peers, mentors, or online forums to seek advice and support. Discussing challenges, sharing experiences, and seeking guidance from individuals who have successfully navigated AFOQT preparation can provide valuable insights.

Take Mock Tests under Simulated Conditions: Incorporate simulated practice tests into your study routine. Mimicking test conditions aids in familiarizing yourself with the test environment and time constraints. It helps reduce test anxiety and builds confidence for the actual exam day.

Establish Realistic Expectations: Establish achievable expectations for both yourself and the preparation journey. Acknowledge that perfection isn't always achievable, and it's acceptable to encounter obstacles or difficulties. Embrace a growth-oriented mindset and concentrate on continual progress and development.

Manage Test Anxiety: Develop strategies to manage test anxiety. Techniques such as visualization, positive affirmations, and focusing on your preparation rather than potential outcomes can help alleviate anxiety.

Take Breaks and Listen to Your Body: Recognize when you need breaks. Listen to your body's signals for rest and relaxation. Taking breaks when needed prevents burnout and promotes overall well-being.

Reflect and Adapt: Regularly reflect on your study methods and strategies. If certain techniques are not yielding desired results, be adaptable and willing to modify your approach. Embrace changes that enhance your effectiveness in preparation.

Chapter 5:

Insights into the Test Sections

Self Inventory Description

The Self Inventory Description section within the AFOQT serves as a unique segment that offers a glimpse into the individual's personality traits, behavioral tendencies, and personal preferences. Unlike other sections of the AFOQT, the Self Inventory Description isn't graded and doesn't have right or wrong answers. Instead, it presents a series of statements or scenarios intending to provide insights into the candidate's self-perceptions, attitudes, and values.

Purpose and Structure

This section aims to evaluate the non-cognitive attributes essential for effective performance as an Air Force officer. It delves into the psychological aspects, providing a window into the candidate's mindset and interpersonal skills. The questions or scenarios offered might explore various aspects, comprising leadership qualities, teamwork, adaptability, problem-solving approaches, and ethical decision-making.

Content and Nature of Questions

The questions or prompts in the Self Inventory Description section are diverse and cover a broad spectrum of scenarios. Candidates may encounter situations related to hypothetical work environments, ethical dilemmas, interpersonal conflicts, or leadership challenges. These prompts are designed to evoke responses that shed light on the candidate's personality traits, moral compass, and behavioral tendencies in varying situations.

Traits and Attributes Assessed

Candidates' responses in this section can reveal a multitude of traits:

- 1. Leadership Style:** It might inquire about leadership preferences, approaches to leading a team, or resolving conflicts within a group.

Ethical Decision-making: This could include scenarios that test ethical judgment and decision-making capabilities, emphasizing the importance of integrity in leadership roles.

Teamwork and Collaboration: It might present scenarios requiring teamwork, cooperation, or delegation, aiming to gauge the candidate's ability to work within a team dynamic.

Problem-solving Strategies: The prompts could explore problem-solving strategies or critical thinking abilities in challenging situations.

Adaptability and Resilience: Questions might assess adaptability, flexibility, and resilience in response to changing circumstances or adversity.

Importance in Officer Selection

While this section doesn't carry a numerical score, its significance lies in providing the Air Force selection board with valuable insights into the candidate's personality and behavioral tendencies. It aids in evaluating the candidate's compatibility with the demands of an Air Force officer role. The responses provide a comprehensive understanding of the candidate's character traits, helping the selection board determine the individual's potential fit within the Air Force and their capacity to embody the core values and principles upheld by the organization.

Tips for Candidates

Since there are no "right" or "wrong" answers, candidates should respond authentically and thoughtfully. It's crucial to showcase personal values, ethical judgment, and leadership style genuinely. Maintaining consistency in responses while ensuring they align with the attributes desired in an Air Force officer is vital. Candidates should aim to provide responses that reflect integrity, adaptability, problem-solving skills, and a collaborative spirit.

Verbal Analogies

Verbal analogies are an important component of standardized exams like the AFOQT because they assess your ability to recognize and understand relationships among words. By mastering verbal analogies, you can improve your skills in critical thinking, problem-solving, and language comprehension.

One of the key benefits of studying verbal analogies is that it enhances your understanding of word definitions and their contextual usage. By analyzing the relationships among words, you acquire a more profound comprehension of their significance and the ways in which they are connected to each other. This knowledge can significantly improve your overall language skills and your ability to communicate effectively.

Verbal analogies also play a crucial role in developing your cognitive abilities. They require you to think abstractly, make connections among different concepts, and identify patterns and similarities. This type of reasoning is appreciated not only in academic settings but also in real-life situations that demand problem-solving and critical thinking skills.

Moreover, verbal analogies provide a foundation for understanding figurative language such as metaphors, similes, and allegories. By recognizing the underlying relationships among words, you can better grasp the intended meanings behind these literary devices. This skill is particularly important in fields like literature, rhetoric, and creative writing.

To excel in verbal analogies, it is essential to familiarize yourself with different types of analogies and their corresponding relationships. As mentioned earlier, some common types include synonyms, antonyms, part-to-whole relationships, cause and effect, degree of intensity, function or purpose, and classification. By understanding these patterns, you can quickly identify the relationship in a given analogy and select the most appropriate answer.

Practicing verbal analogies is crucial to improving your performance. Regular exposure to various analogies and their solutions helps you develop a systematic approach to solving them. Additionally, practicing analogies can expand your vocabulary, improve your logical reasoning skills, and enhance your ability to make accurate and efficient associations among words.

When approaching verbal analogies, it is important to read the question carefully and understand the relationship among the given pair of words. Take note of any nuances or subtleties in the relationship and consider the different answer choices before making a selection. Eliminate options that do not accurately reflect the relationship established in the original pair of words.

Question Format and Approach to Verbal Analogies:

The verbal analogy section in the AFOQT typically presents pairs or triplets of words, requiring candidates to identify relationships analogous to those among the given words. Let's dissect the format through a detailed example analysis:

Example 1 (Pair of Words):

"Cat is to mammal as

- A. shoe is to foot.
- B. kitten is to feline.
- C. dolphin is to amphibian.

- D. lizard is to reptile.
- E. lamp is to bedroom."

In this scenario, the relationship among "cat" and "mammal" signifies a category and type association. Analyzing the answer choices involves identifying a similar category-type relationship. Recognizing that "lizard" is a type of "reptile," mirroring the original relationship, is pivotal for a correct answer.

Example 2 (Triplet of Words):

"Heat is to scorching as cold is to

- A. burning.
- B. freezing.
- C. melting.
- D. ice.
- E. Alaska."

Here, the analogy centers on the intensity or degree of a condition. "Scorching" represents an extreme intensity of heat, akin to "hot." To identify the analogous relationship for cold, recognizing "freezing" as an intensity of cold, similar to "cold" representing heat, is crucial.

Types of Analogies

There are various types of analogies that you may encounter in the verbal analogies section of the AFOQT. Here are some common types:

Synonyms:

- < Example: Fast is to quick as loud is to _____.
- < Solution: Fast and quick are synonyms that describe speed, so the correct answer would be loud.

Antonyms:

- < Example: Hot is to cold as up is to _____.
- < Solution: Hot and cold are opposite in meaning, so the correct answer would be down.

Part to Whole:

- < Example: Tire is to car as leaf is to _____.

- ◁ Solution: A tire is a part of a car, similarly, a leaf is a part of a tree.

Cause and Effect:

- ◁ Example: Hunger is to eat as thirst is to _____.
- ◁ Solution: Hunger causes the need to eat, similarly, thirst causes the need to drink.

Degree of Intensity:

- ◁ Example: Small is to tiny as big is to _____.
- ◁ Solution: Small and tiny have a relationship of degree, so the correct answer would be big.

Function or Purpose:

- ◁ Example: Pen is to write as knife is to _____.
- ◁ Solution: The function or purpose of a pen is to write, similarly, the function or purpose of a knife is to cut.

Classification:

- ◁ Example: Rose is to flower as oak is to _____.
- ◁ Solution: A rose is a type of flower, similarly, an oak is a type of tree.

Arithmetic Reasoning

Arithmetic Reasoning is a fundamental section within various standardized tests, comprising the AFOQT. It assesses an individual's mathematical problem-solving skills, specifically focusing on basic arithmetic concepts. The capability of a candidate to answer numerical inquiries that involve addition, subtraction, multiplication, division, percentages, fractions, and ratios is evaluated in this area of the test. Let's delve into the concepts, formulas, and strategies involved in Arithmetic Reasoning:

Basic Arithmetic Operations:

- 1. Addition:** The act of merging two or more numbers in order to determine the ultimate sum of those numbers.

- ◁ Formula: $a+b=c$
- ◁ Example: $3+4=7$

Subtraction: The process of finding the difference among two numbers.

- ◁ Formula: $a-b=c$

◁ Example: $9-5=4$

Multiplication: A method that involves adding a number multiple times or multiplying it by another number.

◁ Formula: $a \times b = c$ or $a \cdot b = c$

◁ Example: $6 \times 7 = 42$

Division: This refers to the method of dividing a number into similar pieces or determining the no. of times one number can be inserted into another.

◁ Formula: $a = b \cdot c$ or $a \div b = c$

◁ Example: $30 = 6 \cdot 5$

Percentages:

1. Percentage Change: Calculating the change in quantity in terms of a percentage.

◁ Formula: $\text{Percentage Change} = \frac{\text{Change}}{\text{Original}} \times 100$

◁ Example: If a value changes from 50 to 70, the percentage change is $\frac{70-50}{50} \times 100 = 40$

Percent Increase/Decrease: Calculating the increased or decreased value as a percentage.

◁ Formula for Increase: $\text{Increase Percentage} = \frac{\text{Increase}}{\text{Original}} \times 100$

◁ Formula for Decrease: $\text{Decrease Percentage} = \frac{\text{Decrease}}{\text{Original}} \times 100$

◁ Example: If the price increases from \$50 to \$70, the increase percentage is $\frac{70-50}{50} \times 100 = 40$

Fractions and Ratios:

1. Fractions: Represent parts of a whole or division of integers.

◁ Basic Operations: Addition, subtraction, multiplication, and division with fractions.

◁ Example: $\frac{1}{2} + \frac{1}{2} = 1$

Ratios: Comparison of two quantities by division.

◁ Formula: $a:b$ or $\frac{a}{b}$

◁ Example: If there are 20 boys and 30 girls, the ratio of boys to girls is 20:30 or $\frac{20}{30}$.

Formulas for Problem Solving:

1. Area and Perimeter:

- < **Square:** Perimeter = $4 \times \text{side}$, Area = side^2
- < **Rectangle:** Perimeter = $2(\text{length} + \text{width})$, Area = $\text{length} \times \text{width}$
- < **Circle:** Circumference = $2\pi r$, Area = πr^2
- < **Triangle:** Perimeter = $\text{side}_1 + \text{side}_2 + \text{side}_3$, Area = $\frac{1}{2} \times \text{base} \times \text{height}$

Volume:

- < **Cube:** Volume = side^3
- < **Cylinder:** Volume = $\pi r^2 \times \text{height}$
- < **Sphere:** Volume = $\frac{4}{3}\pi r^3$
- < **Cone:** Volume = $\frac{1}{3}\pi r^2 \times \text{height}$

Simple Interest: $I = P \times R \times T$, where I is interest, P is principal, R is rate, and T is time.

Profit and Loss:

- < **Profit Percentage:** Profit Percentage = $\frac{\text{Profit}}{\text{Cost Price}} \times 100$

Average/Mean: Average = $\frac{\text{Sum of all values}}{\text{Number of values}}$

Proportions: $\frac{a}{b} = \frac{c}{d}$, where a, b, c, d are quantities.

Strategies for Problem Solving:

1. **Identify Keywords:** Pay attention to terms like "more than," "less than," "of," "per," etc., to understand problem requirements accurately.

Draw Diagrams: Visualize geometric shapes or scenarios to understand problems better.

Estimation: Approximate calculations to eliminate answer choices or check reasonableness.

Backsolving: Substitute answer choices to determine the correct one.

Practice and Review: Regular practice and reviewing concepts and formulas to enhance problem-solving skills.

Word Knowledge

The Word Knowledge section of the AFOQT holds substantial weight as it assesses your vocabulary and comprehension skills. This section evaluates your ability to discern word meanings, identify synonyms, and select words that are closest in meaning to the given word. While it might seem

challenging to significantly expand your vocabulary shortly before the test, strategic preparation can significantly enhance your performance.

Effective Preparatory Measures:

1. Reading Diversely

- ◁ **Varied Reading Material:** Engage with a wide array of reading materials encompassing different genres, academic subjects, newspapers, articles, and literature. This exposure introduces you to diverse vocabularies and word contexts.
- ◁ **Active Engagement:** While reading, make a conscious effort to identify unfamiliar words, comprehend their meanings from the context, and look up their definitions. Develop a habit of jotting down these new words and revisiting them regularly to reinforce retention.

Time-efficient Approach

- ◁ Acknowledge that expanding your vocabulary significantly right before the test might not be feasible. Therefore, focus on refining your approach to answer Word Knowledge questions swiftly and accurately.
- ◁ Practice timed drills and simulated test scenarios to enhance your speed in deciphering word meanings and identifying synonyms efficiently.

Tactical Strategies for Success

1. Best Possible Match Approach

Understand that an exact match might not always be available among the answer choices. Prioritize selecting the word that best aligns in meaning with the given word. Begin by eliminating obviously incorrect choices and then compare the remaining options for the closest match.

Harnessing Prefixes and Suffixes

Familiarize yourself with common prefixes (such as pre-, anti-, mis-) and suffixes (-ly, -ed, -ing). This knowledge helps decode unfamiliar words by providing clues to their meanings based on affixes.

Prefix	Meaning	Example Word

ante-	before	antenatal
anti-	against	antidepressant
circum-	around	circumvent
co-	with	co-pilot
de-	down	devalue
dis-	not	disagree
en-	cause to	enclose
epi-	upon/close to	epicenter
ex-	former	ex-president
extra-	more than	extraordinary
fore-	before	forecast
homo-	same	homoplastic

hyper-	Over	hyperactive
il-	Not	illegal
im-	Into	import
infra-	beneath	infrared
macro-	large	macroeconomics
micro-	small	microeconomics
mid-	middle	midway
mis-	wrongly	misunderstand
mono-	one	monotone
non-	without	nonsense
omni-	all	omnipotent
para-	beside	parachute

post-	after	post-mortem
pre-	before	predetermine
re-	again	rediscover
semi-	half	semicircle
sub-	under	submarine
super-	above	superimpose
therm-	heat	thermostat
trans-	cross	transnational
tri-	three	tripod
un-	Not	unfinished
uni-	One	unicycle

Differentiating Positive vs. Negative Connotations

Recognize the positive or negative connotations associated with words. This distinction aids in discerning the intended meaning and narrowing down answer choices.

Understanding Word Strengths

Words might share similar meanings but differ in intensity. Pay attention to the strength or degree of a word's meaning (E.g., mild vs. severe negativity) to select the most appropriate synonym.

Identifying Word Types

Gain familiarity with different word types—nouns, verbs, adjectives, and adverbs. Knowing the word's type helps eliminate choices that do not fit the grammatical or contextual structure.

Contextual Comprehension and Sentence Formation

Create sample sentences incorporating the given word. Replace the main word with each answer choice to assess its contextual suitability. This exercise aids in understanding how words function within specific contexts.

Strategic Elimination of Options

Eliminate similar or redundant words among the answer choices. If multiple choices convey comparable meanings but deviate from the original word's context, discard them to narrow down possibilities effectively.

Avoiding Bias Towards Familiarity

While a familiar word might initially seem correct, critically evaluate its relevance to the given word. Resist the urge to choose solely based on recognition. Instead, use familiar words as hints to guide your selection process.

Mathematical Knowledge

The Mathematical Knowledge section of the AFOQT evaluates candidates on their quantitative reasoning, problem-solving skills, and mathematical knowledge. This section aims to assess an individual's ability to apply fundamental mathematical concepts to solve problems efficiently and accurately. It does not typically involve advanced calculus or complex mathematical theories, focusing more on high school-level mathematics.

Arithmetic Fundamentals

Fundamental Operations

At the core of arithmetic lie the basic operations: addition, subtraction, multiplication, and division. Understanding these operations and their properties is fundamental.

- ◁ **Addition:** The process of combining numbers to find their sum.
- ◁ **Subtraction:** Finding the difference among numbers.
- ◁ **Multiplication:** Repeated addition or grouping numbers.
- ◁ **Division:** Dividing a number into equal pieces or determining the no. of times one number is included inside another is referred to as the process of numerical division.

Order of Operations

PEMDAS (Parentheses, Exponents, Multiplication, Division, Addition, Subtraction) is the acronym often used to memorize the order of operations in solving mathematical expressions. The order dictates the sequence in which operations should be performed.

Fractions, Decimals, and Percentages

Fractions

Fractions represent parts of a whole or a ratio of two numbers. Understanding concepts like proper fractions, improper fractions, mixed numbers, and operations concerning fractions is crucial.

Decimals

Decimals are numerical expressions that include a decimal point. Understanding decimal places, converting fractions to decimals, and performing arithmetic with decimals is essential.

Percentages

Percentages are proportions expressed as a fraction of 100. Understanding percentage increase, decrease, and solving percentage-related problems are key concepts.

Ratios and Proportions

Ratios

Ratios are a comparison of two quantities. They can be expressed in different forms such as part-to-part, part-to-whole, or in the form of a fraction.

Proportions

Proportions are equations that state two ratios are equal. Understanding direct and inverse proportions is crucial for solving problems related to proportional relationships.

Algebraic Expressions and Equations

Algebraic Expressions: Combinations of variables, constants, and operators.

◁ Example: $2x+3y$

Linear Equations: Equations concerning variables to the power of 1.

◁ Formula: $ax+b=0$

Systems of Equations: Simultaneous equations with multiple variables.

◁ Formula: $\begin{cases} ax+by=c \\ dx+ey=f \end{cases}$

Inequalities and Absolute Values

Inequalities: Mathematical expressions showing a relationship among non-equal values.

◁ Formula: $a \neq b$

Absolute Value: The distance of a number from zero on a number line.

◁ Formula: $|a|$

Exponents and Polynomials

Exponentiation: The no. of times a number is multiplied by itself.

◁ Formula: a^n

Polynomials: Expressions with variables and coefficients.

◁ Example: ax^2+bx+c

Geometry Concepts

Basic Geometric Shapes: Properties and formulas of shapes like triangles, circles, squares, etc.

◁ **Area Formulas:** Square (a^2), Rectangle ($l \times w$), Circle (πr^2)

◁ **Perimeter Formulas:** Square ($4a$), Rectangle ($2l+2w$)

Coordinate Geometry: Graphing points, distances, slopes, equations of lines, etc.

◁ Formula: $y=mx+b$ (Equation of a line)

Three-Dimensional Shapes: Volume, surface area, and properties of cubes, spheres, etc.

- ◁ Formula: $V=l \times w \times h$ (Volume of a rectangular prism)

Trigonometry

Trigonometric Functions: Sine, cosine, tangent, and their reciprocals in right-angled triangles.

- ◁ $\sin(\theta) = \frac{\text{opposite}}{\text{hypotenuse}}$
- ◁ $\cos(\theta) = \frac{\text{adjacent}}{\text{hypotenuse}}$
- ◁ $\tan(\theta) = \frac{\text{opposite}}{\text{adjacent}}$

Probability and Statistics

Probability Concepts: Theory of chance, permutations, combinations, etc.

- ◁ Formula: $P(E) = \frac{\text{Number of favorable outcomes}}{\text{Total number of possible outcomes}}$

Descriptive Statistics: Measures like mean, median, mode, range, etc.

- ◁ Formula: Mean = $\frac{\text{Sum of all values}}{\text{Number of values}}$

Reading Comprehension

The Reading Comprehension section of the AFOQT evaluates your ability to comprehend written passages efficiently and accurately. This section assesses your critical thinking skills, ability to infer information, draw conclusions, and identify main ideas within complex texts. It plays a vital role in assessing your aptitude for processing information, a crucial skill for military leadership roles.

Strategic Approach to Reading Comprehension:

1. Active Engagement with Passages

Preview the Passage: Begin by previewing the passage to gain an overview of its structure, main idea, and topic. Skim through headings, subheadings, and introductory sentences to grasp the passage's content.

Annotate and Highlight: As you read, annotate the text by underlining key phrases, circling essential details, and jotting down marginal notes. This active engagement helps in retaining information and pinpointing crucial elements.

Understanding Passage Structure

Identify the passage's structure, comprising its introduction, body paragraphs, and conclusion. Recognizing the organization assists in comprehending the flow of ideas and connecting main points.

Question Familiarization

Prior to delving into the passage, acquaint yourself with the accompanying questions. This pre-reading step directs your focus and helps in identifying relevant information while reading.

Tactical Strategies for Effective Comprehension

1. Skimming and Scanning

Skimming: Read through the passage swiftly to capture the main idea, tone, and purpose. Focus on the introductory and concluding paragraphs, topic sentences, and concluding statements of each paragraph.

Scanning: Quickly scan for specific details, keywords, or phrases that directly relate to the questions. Utilize this technique to locate information efficiently when answering specific inquiries.

Active Reading Techniques

Critical Reading: Engage critically with the text, questioning the author's argument, tone, and underlying assumptions. Assess the credibility of the information presented and distinguish among fact and opinion.

Inferential Skills: Develop the ability to infer implied information, draw conclusions, and make logical deductions based on the given context.

Question-Oriented Reading

Tailor your reading based on the types of questions provided. For instance, focus on differentiating among main ideas and supporting details for questions related to summarization or comprehension.

Answer Prediction

Predict potential answers to questions before reviewing the options provided. This proactive approach helps in selecting the most appropriate answer and minimizes the influence of deceptive answer choices.

Time Management

Allocate time effectively among reading and answering questions. Practice time-bound exercises to enhance your reading speed without compromising comprehension accuracy.

Contextual Understanding

Comprehend the context and purpose of the passage. Identify the author's perspective, central argument, and any persuasive or argumentative techniques employed.

Referencing and Verification

While answering questions, refer back to the passage to validate your chosen answers. Avoid making assumptions or relying solely on memory.

Utilizing Practice Resources:

1. Timed Practice Tests

Engage in timed practice tests to simulate test conditions and enhance your ability to manage time efficiently while maintaining accuracy.

Variety in Reading Materials

Read diverse content, comprising academic texts, scientific articles, opinion pieces, and literary passages. This exposure aids in familiarizing yourself with different writing styles and subjects.

Situation Judgment

The Situational Judgment section in the AFOQT assesses your ability to make sound judgments in various scenarios commonly encountered in leadership roles within the Air Force. This segment comprises scenarios reflecting real-world situations where interpersonal conflicts, ethical dilemmas, and leadership challenges arise. Each scenario presents a specific context, followed by a set of five possible responses. Your task is to evaluate the responses and determine which is the "most effective" and which is the "least effective" among the given options. This section aims to gauge your decision-making skills, ethical reasoning, and aptitude in handling diverse situations that often arise within military leadership roles. Successful performance in this section showcases your ability to navigate complex situations and make informed, rational decisions aligned with ethical and professional standards, vital attributes for effective leadership within the Air Force.

Situation Judgment: Navigating Scenarios

Understanding the Format:

1. Scenario-based Questions

This section presents hypothetical scenarios often encountered in military or professional settings. Each scenario is followed by a series of response options.

Response Options

Multiple-choice responses vary in terms of appropriateness, and test-takers must evaluate and select the most effective or suitable response in a given situation.

Strategies for Success:

1. Contextual Comprehension

Prioritize understanding the context of each scenario. Consider the scenario's environment, stakeholders involved, and any constraints presented.

Identifying Key Issues

Identify the central issue or problem within each scenario. Clarity on the primary concern aids in selecting the most relevant response.

Evaluating Response Options:

1. Analyzing Solutions

Assess each response option critically. Consider the advantages, potential consequences, and ethical implications associated with each choice.

Scalability of Solutions

Determine the scalability of responses. Solutions that can be adapted to various situations or have broader applicability might be more suitable.

Decision-making Frameworks:

1. Ethical Considerations

Prioritize ethical standards and principles in decision-making. Responses should align with ethical guidelines, comprising honesty, integrity, and respect.

Leadership and Teamwork

Consider responses that reflect effective leadership, teamwork, and collaboration. Solutions fostering cooperation and inclusivity often stand out.

Best Response Selection:

1. Prioritizing Effectiveness

Select the response that is most effective in addressing the situation. Opt for solutions that provide resolution or contribute positively to the scenario.

Avoiding Extremes

Avoid extreme or overly cautious responses. Balance is key—opt for solutions that find a middle ground without compromising integrity or efficiency.

Test-taking Strategies:

1. Practice Scenarios

Engage in practice tests featuring diverse scenarios. Familiarity with various contexts and response patterns enhances preparedness.

Time Management

Manage time effectively. Allocate sufficient time to read and understand scenarios, analyze options, and select the most appropriate response.

Reviewing Performance:

1. Analyzing Mistakes

Review incorrect responses during practice tests. Identify patterns or tendencies in selecting less effective responses and work on improving decision-making strategies.

Feedback and Improvement

Seek feedback from mentors, instructors, or study groups. Discussing scenarios and rationale behind responses enhances understanding and decision-making skills.

Physical Science

The Physical Science section aims to assess your grasp of scientific terminology and fundamental concepts rather than requiring intricate physics calculations or chemical equation balancing. Its focus lies in evaluating your familiarity with key scientific principles.

To adequately prepare for this section, it's essential to revisit science terminologies and foundational concepts. While a glossary of terms is provided here as a starting point, a more comprehensive approach involves referring to a high school physical science textbook. Exploring the complete glossary within such a textbook can provide a more thorough review and understanding of the essential terms and concepts required for this section.

A

Absolute zero: There is no temp. lower than absolute zero, which is -273.15° Celsius.

Atmospheric pressure: This refers to the pressure that is imposed by the gases that are present in the atmosphere. kPa, atm, mm Hg, and Torr are the units of measurement that are used. 100 kPa, 1 atm, 760 mm Hg, or 760 Torr is the standard for denoting the pressure of the atmosphere.

Atom: They are the smallest particles that make up an element. They consist of a nucleus and the electrons that encircle it.

Atomic mass: The mass of an atom is determined in atomic mass units (amu). One twelfth of the atom of carbon-12 is equivalent to one atomic mass unit and vice versa. Nuclear mass, as opposed to atomic weight, is the term that is most commonly used today. Consider the fact that chlorine has an atomic mass of around 35 amu.

Atomic number: It is a count of electrons or the no. of protons that are contained within an atom. The atomic number is additionally referred to as the proton number. Let's take gold as an example; its atomic number is 79.

Atomic weight: It is a word that is frequently utilized to refer to the masses of an element on average in molar units. This is the mass of atoms multiplied by one mole. For instance, the atomic weight of chlorine is around 35 grams per mole.

B

Boiling point: The temp. of a material that occurs when it transitions from a liquid to a gas is referred to as its phase change temp.

C

Celsius scale (°C): A temp. scale whereby the freezing point of water is at zero° and the typical boiling point of water at standard atmospheric pressure is one hundred°.

Change of state: An alteration that takes place among each of the three states of matter, which are solid, liquid, and gas. As an illustration, water undergoes a transformation from a liquid to a gaseous state once it dissipates.

Compound: A substance that is composed of multiple components that are brought united through chemical bonds. As an illustration, calcium may interact with carbon and oxygen to produce calcium carbonate (CaCO₃), which is a substance that contains every single component.

Condensation: The process by which a gas transforms into a liquid. There has been a shift in state, which is often referred to as a phase change.

Conduction: (i) the transfer of heat (heat conduction) through interaction with another substance, or (ii) the facilitation of the passage of electrons (electrical conduction).

Convection: The transfer of heat energy from one environment to another that occurs as a result of the movement of a fluid that has been heated or cooled over time.

D

Decay (radioactive decay): The process by which a radioactive element undergoes a transformation into a different substance as a result of the loss of mass caused by radiation. The formation of thorium 234 is the result of the decay of uranium 238, which involves the loss of an alpha particle.

Density: It is the mass expressed as a percentage of the volume (for example, g/cm³).

Diffusion: Combining one ingredient with a different one in a gradual and steady manner till the two components are thoroughly well combined. The changes in concentration that exist inside the mixture are what cause mixing to take place. With gases, diffusion occurs very quickly, whereas with liquids, it occurs very gradually.

Dissolve: To decompose a material in a solution without triggering a reaction to occur simultaneously.

E

Electrical potential: The amount of energy that is generated by an electrochemical cell and can be determined by the voltage or electromotive force (emf).

Electron: An extremely minute particle that has a negative charge and is a component of an atom. At the same time as electrons are moving across a solid material like a wire, an electric current is being produced.

Element: A substance that is unable to be broken down into a more basic substance through the use of chemical transformations. Calcium, iron, and gold are a few instances.

Explosive: In the event that a shock is delivered to a substance, it undergoes a quick decomposition, resulting in the release of a significant quantity of heat and the production of a substantial volume of gases in the form of a shock wave.

F

Fluid: Perhaps a liquid or a gas; capable of flowing.

Freezing point: The point during which a substance endures a change in phase, transitioning from a liquid to a solid during the process. The temp. is identical as the point at which anything melts.

G

Gamma rays: The nucleus of a radioactive element reorganizes themselves into a more compact cluster of protons and neutrons, which results in the production of waves of radiation. There is sufficient energy in gamma rays to cause damage to live cells.

Gas/gaseous phase: A type of matter in which the molecules do not give rise to any particular shape and are free to move around in order to fill any vessel in a manner that is consistent with their size. The volume of a gas can be simply reduced by compressing it into a smaller volume.

Group: There is a column in the Periodic Table that is vertical. The table is divided into eight different groups. The no. of electrons that are present in the outer shell of the atoms that are part of the group is corresponding to their numbers. Take, for instance, the elements beryllium, magnesium, calcium, strontium, barium, and radium that are found in Group 2.

H

Half-life: For a given amount of time, the amount of radiation that emanates from a sample of a radioactive element will go down by a factor of two.

Heat: The energy that is transmitted from one substance to another when the temp. of the substance differs from the temp. of the environment around it.

Heat capacity: The proportion of the amount of heat that is applied to a substance in comparison to the amount of temp. that develops as a result of the heat.

Heat of combustion: Within the process of combustion, the amount of heat that is liberated by one mole of a substance. The amount of heat produced by the substance is a quality that remains constant regardless of the type of combustion that is taking place. For instance, the heat of combustion of carbon is 94.05 kcal (multiplying 4.18 kJ/kcal by 94.05 kcal = 393.1 kJ).

I

Ion: A group of atoms or an individual atom that has acquired or lost a few electrons, resulting in the formation of an electrical charge over time. The behavior of ions is distinct from that of atoms and molecules that are electrically neutral. In addition to being able to circulate in an electric field, they are also capable of forming strong bonds with molecules of solvents like water. Charged ions with a positive charge are referred to as cations, whereas ions with a negative charge are referred to as anions. The passage of an electrical current across solutions is possible for ions.

Isotope: A pair of multiple atoms of an identical element that share an identical amount of protons in their nucleus (represented by their atomic number), but that contain an alternate quantity of neutrons (represented by their atomic mass). Taking carbon-12 and carbon-14 as an instance.

K

Kinetic energy: The power that an object possesses just by merit of the fact that it is moving.

L

Latent heat: In the course of shifting states from gas to liquid to solid, the quantity of heat that is taken in or released is referred to as the heat transfer rates. As an illustration, heat is taken in when a substance dissolves, and it evaporates once more when the thing becomes solid.

Liquid/liquid phase: It is a type of stuff that has a constant volume but does not have a constant shape.

M

Mass: How much matter is contained within an object. In daily language, the term "weight" is frequently utilized to refer to mass, but in a rather inaccurate manner.

Matter: Whatever that is both mass and occupies space is allowed.

Melting point: The point during which a substance transitions from a solid phase to a liquid phase is referred to as the changing temp. The freezing point is a similar thing as this.

Metal: A group of elements that are characterized by the fact that they are excellent conductors of both heat and electricity, possess a metallic sheen, are malleable and ductile, are capable of forming cations, and have oxides that are bases. In the process of metal formation, cations are bound together by an abundance of electrons. One such possibility is that a metal is an alloy of these elements. Sodium, calcium, and gold are a few instances.

Mixture: A substance that is able to physically split into two or more components that are both distinct from one another. A prime instance of a mixture that is capable of being isolated by filtration is one that contains copper (II) sulfate and cadmium sulfide.

Mole: The quantity of a substance that comprises Avogadro's no. of particles, that is approximately 6×10^{23} , is referred to as one mole. One mole of carbon-12 weighs exactly 12 grams, as an illustration.

Molecule: The chemical bonds that hold two or more atoms collectively form a group known as a group. O_2 is an instance.

N

Neutron: A particle that is neutral and does not carry any charge and is located within the nucleus of an atom.

Newton (N): The amount of force that must be applied in order to impart an acceleration of one meter every sec after each sec to one kilogram (1 m/s^2).

Noble gases: Helium, neon, argon, krypton, xenon, and radon are the elements that are included in Group 8 of the Periodic Table. It is nearly impossible to find any reactivity in these gases.

Nucleus: The positively charged, highly compact particle that is located at the core of an atom. An atom's nucleus is the component that is liable for the majority of its mass.

P

Period: A row in the Periodic Table.

Periodic Table: A chart that can be used to organize elements into groups and periods based on their atomic numbers and chemical characteristics.

Phase: The specific state of substance in question. A substance may occur in the form of a solid, a liquid, or a gas, and, depending on the amount of energy that is added or removed, it can vary among these three phases. As an illustration, the three phases of water are ice, liquid, and vapor. The addition of heat energy causes ice to transform into water, a phase transition that occurs.

Photon: A parcel of light energy.

Potential energy: The energy an object has by virtue of its position or orientation, most commonly its height above some reference point, or amount of compression as with a spring.

Pressure: The force per unit area measured in Pascals.

Proton: The nucleus of an atom contains a particle that is positively charged that acts as a counterbalance to the charge of the electrons that are located in the region around it.

R

Radiation: The transfer of energy from one location to another by the transmission of waves or particles of energy interacting with the environment. Radiation is a type of energy transmission that is capable of taking place over space; unlike conduction and convection, which need the presence of an intervening medium, radiation does not require any medium to take place.

S

Solid/solid phase: A hard type of matter that is able to keep its shape regardless of the container it is contained in.

Aviation Information

The Aviation Information section of the AFOQT is a comprehensive assessment of a candidate's knowledge across various domains crucial to the aviation field. This section evaluates candidates on their understanding of essential concepts and principles related to aviation, covering a wide array of topics.

1. Fixed-Wing Aircraft

Basic Structure and Components

Fixed-wing aircraft refer to airplanes that have wings rigidly attached to the structure. These aircraft rely on the principle of lift generated by air flowing over the wings to achieve flight. Components include:

- ⟨ **Wings:** Fundamental for lift generation. Various types such as high-wing, mid-wing, and low-wing designs exist, each affecting aircraft stability differently.
- ⟨ **Fuselage:** The main body of the aircraft that holds the crew, passengers, cargo, and houses the cockpit and avionics.
- ⟨ **Empennage:** Comprising the tail section, comprising the vertical stabilizer (with the rudder) and horizontal stabilizer (with the elevator).
- ⟨ **Landing Gear:** Supports the aircraft during takeoff, landing, and when parked. Includes wheels or skids and shock-absorbing mechanisms.
- ⟨ **Propulsion Systems:** Could be piston engines, turbofans, or turboprops that provide the necessary thrust for movement.

Types of Fixed-Wing Aircraft

- ⟨ **Single-Engine Aircraft:** Smaller planes often used for training, personal travel, or short-haul flights.
- ⟨ **Multi-Engine Aircraft:** Larger planes with more than one engine, generally used for commercial purposes or longer distances.
- ⟨ **Military Jets:** High-speed aircraft designed for military operations, reconnaissance, or combat.
- ⟨ **Cargo Planes:** Specialized aircraft for transporting goods and freight.
- ⟨ **Specialized Aircraft:** Includes gliders, seaplanes, drones, etc., each designed for unique purposes or environments.

Flight Envelope

Operational Limits

- ⟨ **Speed Limits:** Aircraft have maximum and minimum speeds for safe operations, which vary based on altitude and flight conditions.
- ⟨ **Altitude Limits:** The range of altitudes within which an aircraft can safely operate, influenced by various factors such as pressure and air density.
- ⟨ **Load Factors:** The maximum load an aircraft can handle, ensuring structural integrity during maneuvers and turbulence.

- ⟨ **Other Parameters:** Aspects like temp., fuel efficiency, and aircraft performance contribute to the flight envelope.

Flight Concepts and Terminology

Aerodynamics and Key Terms

- ⟨ **Lift:** Force generated by the wings due to the difference in air pressure, allowing flight.
- ⟨ **Thrust:** Force produced by the aircraft's engines, propelling it forward.
- ⟨ **Drag:** As the airplane travels through the air, it encounters several forms of resistance.
- ⟨ **Angle of Attack:** The angle among the chord line of an airfoil and the oncoming air.
- ⟨ **Center of Gravity:** The point at which the aircraft's weight is evenly distributed.
- ⟨ **Stall Speed:** Minimum speed required to maintain level flight without stalling.

Flight Maneuvers

Various Maneuvers

- ⟨ **Turns:** Changes in direction; standard rate, steep turns, and coordinated turns.
- ⟨ **Climbs and Descents:** Alterations in altitude; ascending and descending flight.
- ⟨ **Stalls and Spins:** Aerodynamic conditions causing loss of lift and uncontrolled rotation.
- ⟨ **Banking:** Tilting the aircraft laterally, changing direction.
- ⟨ **Coordinated Flight:** Proper balance among turns and altitude changes without skidding or slipping.

Helicopters

Rotor System and Controls

- ⟨ **Rotor System:** Utilizes rotary wings to generate lift and enable vertical takeoff and landing (VTOL).
- ⟨ **Cyclic and Collective Pitch Controls:** Mechanisms for controlling the rotor blades' pitch, which affects lift and direction.
- ⟨ **Autorotation:** Technique to land a helicopter safely in case of engine failure by using the rotor's stored energy.
- ⟨ **Torque Effect:** Tendency of the helicopter to rotate in the opposite direction of the rotor blades' rotation.
- ⟨ **Hover and Forward Flight:** Helicopters can hover in place and move in any direction due to their unique design.

Airport Information

Airport Operations and Layout

- ◁ **Runway Configurations:** Various layouts and directions (parallel, intersecting) used for takeoff and landing.
- ◁ **Runway Markings:** Indications for pilots regarding thresholds, centerlines, and taxiways.
- ◁ **Airport Lighting Systems:** Aid in navigation during low visibility or nighttime operations.
- ◁ **Air Traffic Control Procedures:** Protocols followed for safe and organized air traffic movements.
- ◁ **Taxiing Rules:** Guidelines for aircraft movement on the ground among runways and terminals.

Instrument Comprehension

The Instrument Comprehension segment in the AFOQT evaluates candidates' proficiency in understanding fundamental aviation instrumentation. This section typically involves problems showcasing a compass and an artificial horizon, followed by multiple-choice options displaying different aircraft silhouettes in flight. Test takers are required to analyze the data presented by these instruments, which collectively convey the aircraft's compass heading, degree of banking, and the rate of climb or descent. Based on this information, candidates must select the aircraft silhouette that best corresponds to the indicated position.

How Do I Read the Compass and Artificial Horizon Instruments?

The compass, a relatively intuitive instrument with which many people are familiar, shows which direction a person or vehicle is facing. When a person is facing north, for example, the needle on the compass points toward the “N.” If the person is facing a direction among south and southeast, the needle will point among “S” and “SE.”

The artificial horizon is an instrument that shows how the nose and wings of a plane are tilted. For most people, the artificial horizon is less intuitive and less familiar than the compass. However, if you imagine yourself actually flying in a plane, the artificial horizon becomes easier to read and understand.

The artificial horizon has two components that illustrate how the nose of an airplane is tilted with respect to the ground: the miniature wings and the horizon bar. The miniature wings represent the actual wings of the aircraft, and the horizon bar represents the horizon, the imaginary line that

divides the ground and the sky from the pilot's point of view. In order for the plane to be considered level, the miniature wings must be in line with the horizon bar. When the small wings are positioned beyond the horizon bar, the aircraft is slanted upward; conversely, when the miniature wings are positioned beneath the horizon bar, the plane is inclined downward. These categories of nose tilt are shown in the drawing below.

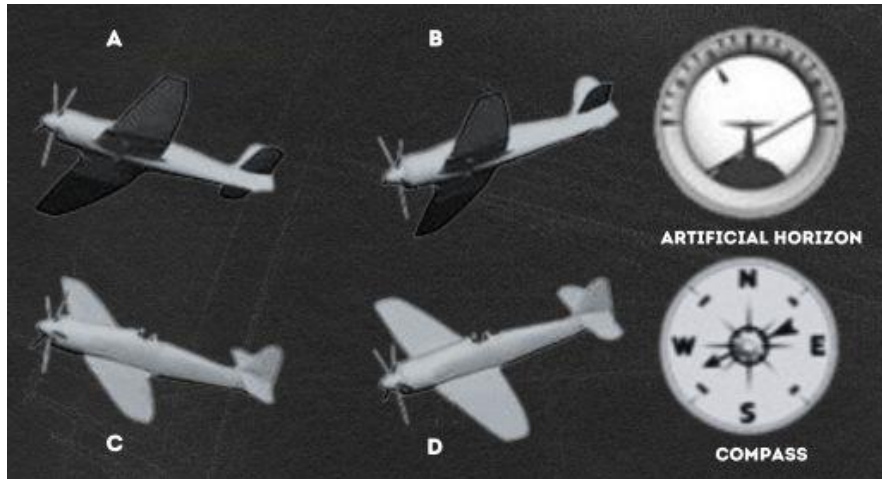


To illustrate how the wings are tilted from side to side, the artificial horizon instrument also has a dial with degree marks representing the bank angle. A needle on the dial indicates the exact bank angle, and the horizon bar is tilted accordingly, as shown in the picture below. If the left wing of the plane is tilted downward, the needle will be to the right of the center of the dial; if the right wing is tilted downward; the needle will be to the left of the center. Note that the tilted horizon bar reflects the pilot's point of view: if the left wing of the plane is tilted downward, the horizon will appear to be tilted in the opposite direction.



To answer the questions, you will have to use information from both the compass and artificial horizon to determine how the plane is oriented. If the plane is flying north, it will appear to fly into the page in the illustrations.

For example, based on the compass and artificial horizon shown below, which of the answer choices represents the orientation of the plane?



ANSWER: The answer is A. First, notice that the compass is pointing in a west-southwest direction. If a north-flying plane is facing into the page, then a westbound plane will be facing left. The compass indicates that the plane is flying somewhere among west and southwest, so the illustration will show a plane that appears to be facing left and just slightly out of the page.

Second, notice that the miniature wings in the artificial horizon are above the horizon line, and the needle on the dial is to the left of the center. From this information, you know that 1) the nose of the plane is tilted upward, and 2) the left wing of the plane is tilted upward, and the right wing is tilted downward. Because only the plane illustrated in choice A fits this description, it is the correct answer.

Table Reading

Table Reading is a skill set evaluating one's ability to understand and extract information from tables, charts, graphs, and diagrams. In the context of standardized tests like the AFOQT, this section often presents various data representations requiring interpretation and analysis.

Understanding Table Reading:

- 1. Types of Tables:** Tables come in diverse formats, comprising frequency tables, comparative tables, and relational tables, each presenting data in specific ways.

Elements in a Table: Tables typically consist of rows, columns, headers, and numerical or categorical data entries.

Data Presentation: Tables can represent quantitative data (numbers) or qualitative data (categories, labels), often used to compare values, trends, or relationships.

Strategies for Table Reading:

- 1. Comprehend the Title and Labels:** Begin by understanding the table's title and any labels on the axes or rows/columns. These provide context to the information presented.

Scan the Table: Before diving into details, take a quick overview to grasp the structure, the nature of data presented, and any notable patterns or trends.

Focus on Specifics: Identify what the table is illustrating—relationships among variables, comparisons, or trends over time. Concentrate on specific rows, columns, or data points relevant to the questions.

Interpret Data Relationships: Analyze how variables interact. Look for correlations, trends, or disparities among different elements showcased in the table.

Refer to Units and Legends: Pay attention to units of measurement and any legends or footnotes that might explain symbols or special annotations used within the table.

Practice Questions: Engage in practice exercises concerning tables to enhance your skills in interpreting and answering questions related to tabular data.

Block Counting

Block Counting is a section in the AFOQT that evaluates your spatial reasoning and visual analysis skills. The test involves counting the no. of blocks or cubes that make up a 3D structure or are hidden within a larger structure.

Strategies for Block Counting:

- 1. Visualization:** Mentally rotate the structure to view it from different angles. Visualizing the blocks' arrangement can help in counting obscured or hidden blocks.

Segmentation: Break down complex structures into smaller, more manageable sections. Count each section separately before combining the totals for an accurate count.

Systematic Approach: Develop a systematic method for counting, such as starting from a specific corner or edge and progressing methodically through the structure. This helps in avoiding overlooking or double-counting blocks.

Practice Puzzles: Engage in practice exercises to familiarize yourself with various block configurations. This enhances your speed and accuracy in identifying block patterns and counts.

Focus on Detail: Pay attention to smaller units within the structure, as they might be essential in determining the accurate count. Ensure you don't miss blocks that are partially visible.

Time Management: Practice time-efficient counting methods to maximize accuracy within the given time frame. Balance speed and precision in your approach.

Eliminate Distractions: Concentrate solely on the structure being counted. Minimize distractions that might hinder focus and precision.

Practice Tips for Block Counting:

- 1. Utilize Sample Tests:** Access practice tests that specifically focus on Block Counting to become accustomed to the types of structures presented and the time constraints.

Diverse Structures: Engage with various block configurations and 3D puzzles to expose yourself to different types of structures you might encounter in the test.

Mindful Review: After practice sessions, review your approaches and note any areas of improvement. Focus on enhancing accuracy and speed simultaneously.

Timed Exercises: Gradually increase the difficulty level of the practice exercises while maintaining timed conditions to enhance both speed and precision.

Consistent Practice: Regular practice is key to improving Block Counting skills. Dedicate consistent study sessions to gradually enhance your abilities.

Chapter 6:

The SIFT Test

Introduction And Differences With The AFOQT

The Selection Instrument for Flight Training (SIFT) is a specialized exam used by the U.S. Army for aspiring candidates aiming for a career as an Army Aviator. Unlike the AFOQT, which is utilized by various branches of the military, the SIFT specifically evaluates the aptitude of candidates for flight training within the Army.

Differences from the AFOQT

The Selection Instrument for Flight Training (SIFT) test and the AFOQT are both standardized exams used by different branches of the U.S. military. While they share similarities as assessment tools, there are distinct differences among the two tests in terms of their purposes, content focus, target audience, and structural elements. Here's an in-depth exploration of the differences among the SIFT and AFOQT:

Purpose and Specificity

The primary difference lies in their specific purposes and targeted audience:

- ◁ **SIFT:** The SIFT is specifically designed for individuals aspiring to become Army Aviators within the U.S. Army. The major objective of this procedure is to evaluate the aptitude and cognitive abilities that are required for success in Army aviation jobs, with a particular emphasis on skills that are pertinent to flight training and helicopter operations.
- ◁ **AFOQT:** In contrast, the AFOQT serves a broader purpose across various career paths within the U.S. Air Force. It assesses the aptitude of candidates aspiring to become officers, encompassing multiple fields such as aviation, engineering, intelligence, and more.

Content Focus

Another significant difference lies in the content and subject matter covered in each test:

- ◁ **SIFT:** The SIFT test concentrates on evaluating specific skills essential for Army aviation. It includes sections that assess spatial awareness, mechanical comprehension, and

knowledge specific to Army aviation operations, such as aircraft components, flight procedures, and regulations.

- ◁ **AFOQT:** While the AFOQT includes sections that cover aviation-related topics, it has a broader scope, encompassing various subjects such as verbal and mathematical reasoning, aviation knowledge, quantitative reasoning, and more. It evaluates cognitive abilities across multiple areas, not solely focused on aviation-related aptitudes.

Target Audience

The SIFT and AFOQT target different audiences with specific career aspirations:

- ◁ **SIFT:** The SIFT is primarily intended for individuals seeking careers as Army Aviators within the U.S. Army. It is a prerequisite for those aiming to enter Army flight training programs.
- ◁ **AFOQT:** On the other hand, the AFOQT caters to candidates aspiring to become officers in the U.S. Air Force across various career specialties, comprising pilots, navigators, engineers, intelligence officers, and more. It assesses officer candidates across diverse career paths within the Air Force.

Test Structure and Sections

The structural elements and the sections within each test also differ:

- ◁ **SIFT:** The SIFT consists of multiple sections specifically tailored to assess aptitudes crucial for Army aviation. These sections include simple drawings, hidden figures, Army aviation information, reading comprehension, math skills, and mechanical comprehension.
- ◁ **AFOQT:** In contrast, the AFOQT encompasses sections such as verbal analogies, arithmetic reasoning, aviation knowledge, math knowledge, reading comprehension, situational judgment, and more. It evaluates a broader range of cognitive abilities across various domains relevant to officer positions within the Air Force.

Understanding these key differences is essential for individuals preparing for military careers, as it guides them in choosing the appropriate test based on their career aspirations within the respective branches of the U.S. military. Both the SIFT and AFOQT play crucial roles in the selection process, but their distinct focuses and content cater to specific career paths within the Army and Air Force, respectively.

Structure And Content Of The SIFT

The SIFT test consists of multiple sections, each strategically crafted to assess distinct skills and knowledge relevant to flight training within the U.S. Army. Let's delve deeper into the structure and content of the SIFT:

1. Simple Drawings

The Simple Drawings section assesses candidates' spatial perception and visualization abilities. Candidates are presented with uncomplicated drawings, often concerning basic shapes or figures. The task involves identifying specific components, shapes, or patterns within these drawings. This segment aims to measure a candidate's capacity to comprehend spatial relationships, mental rotation, and visualization, crucial skills for pilots to interpret three-dimensional space accurately.

Hidden Figures

The Hidden Figures section evaluates candidates' spatial awareness and the ability to identify specific shapes or figures concealed within intricate images. Candidates must discern and pinpoint particular shapes or patterns embedded within complex illustrations. This segment assesses spatial reasoning, visual acuity, and the capability to identify and isolate hidden elements—an essential skill for quickly recognizing relevant details within complex visual data, vital in aerial navigation.

Army Aviation Information

This segment tests candidates' knowledge of Army aviation-related topics. It covers a broad spectrum, comprising aircraft components, flight procedures, regulations, and other pertinent information specific to Army aviation operations. Understanding aircraft systems, terminology, regulations, and basic aviation principles is vital for aspiring Army Aviators to ensure competency in the field.

Reading Comprehension

The Reading Comprehension section gauges candidates' ability to understand and analyze written information effectively. Candidates read passages on various topics and answer questions based on the content. This part evaluates critical thinking, inference, and the ability to extract relevant information from written material—skills essential for comprehending flight manuals, technical documents, and operational procedures.

Math Skills

The Math Skills segment encompasses arithmetic reasoning and math knowledge. Candidates solve mathematical problems that evaluate their proficiency in basic mathematical operations, reasoning abilities, and application of mathematical concepts relevant to aviation tasks. These skills are crucial for performing calculations related to flight planning, navigation, and aircraft performance.

Mechanical Comprehension

This section assesses candidates' grasp of basic mechanical and physical principles. It tests their understanding of mechanics, comprising principles of motion, force, energy, and simple machines. Knowledge in this area is vital for comprehending aircraft systems, troubleshooting mechanical issues, and understanding the principles governing flight mechanics.

When And Why To Choose SIFT

Understanding when and why to opt for the SIFT test is essential for candidates considering Army aviation roles and seeking entry into Army flight training programs. Here's an in-depth exploration of when and why to choose the SIFT:

When to Choose the SIFT

The SIFT test is necessary for individuals considering a career as an Army Aviator or seeking entry into Army flight training programs. Here are the key instances when the SIFT is typically chosen:

1. Aspiring Army Aviators

Individuals aspiring to become Army Aviators within the U.S. Army are required to take the SIFT. This test serves as a crucial evaluation tool to assess candidates' aptitude and cognitive abilities necessary for success in Army aviation roles.

Entry into Army Flight Training Programs

The SIFT is a prerequisite for candidates aiming to enter Army flight training programs. Achieving a competitive score on the SIFT significantly enhances the likelihood of selection into these highly sought-after flight training programs within the U.S. Army.

Military Occupational Specialty (MOS) Qualification

For individuals looking to qualify for specific Military Occupational Specialties (MOS) related to Army aviation, the SIFT is a mandatory requirement. It serves as an initial step toward qualifying for MOS positions within the Army's aviation branch.

Why Choose the SIFT

The decision to choose the SIFT is rooted in the test's significance and its relevance to Army aviation roles and training programs. Here are key reasons why candidates opt for the SIFT:

1. Specialized Aviation Aptitude Assessment

The SIFT is specifically designed to assess the cognitive abilities and aptitudes crucial for success in Army aviation roles. It focuses on evaluating skills directly related to flight training, helicopter operations, and aviation knowledge specific to Army procedures.

Prerequisite for Flight Training

Achieving a competitive score on the SIFT is essential for candidates seeking entry into Army flight training programs. It serves as a determining factor for selection into these programs, which are fundamental for individuals aspiring to become Army Aviators.

Assessment of Aviation-Specific Skills

The SIFT evaluates essential skills such as spatial perception, mechanical comprehension, aviation knowledge, mathematical aptitude, and reading comprehension—skills vital for success in Army aviation roles.

Career Path as an Army Aviator

Opting for the SIFT is pivotal for individuals aspiring to pursue a career as an Army Aviator. The test acts as a gateway, determining eligibility and laying the foundation for a career in military aviation within the U.S. Army.

MOS Qualification and Career Opportunities

Qualifying through the SIFT expands opportunities for candidates to pursue specific Military Occupational Specialties (MOS) related to Army aviation, opening doors to diverse career paths and opportunities within the Army's aviation branch.

Chapter 7:

Complete AFOQT Practice Tests

Practice Test 1

Verbal Analogies

1. Influence is to persuade as fight is to

- A. Sport
- B. Combat
- C. Lose
- D. Champion
- E. Peace

2. Wine is to goblet as soup is to

- A. Ladle
- B. Plate
- C. Rudder
- D. Tureen
- E. Salt

3. Danger is to safety as waste is to

- A. Economize
- B. Trash
- C. Environment
- D. Throw
- E. Improve

4. Loyal is to faithful as poor is to

- A. Excellent
- B. Beggar
- C. Destitute
- D. Wealth
- E. Money

5. Delay is to filibuster as divide is to

- A. Aggravate
- B. Table
- C. Archive
- D. Gerrymander
- E. Drink

6. Michigan is to USA as Mars is to

- A. Planet
- B. Moon
- C. Black Hole
- D. Continent
- E. Milky Way

7. Weak is to feeble as vacant is to

- A. Vacancy
- B. Vacation
- C. Full
- D. Empty
- E. Complete

8. Wing is to plane as wide receiver is to

- A. Quarterback
- B. Winner
- C. Sport
- D. Football team
- E. Stadium

9. Upset is to distraught as like is to

- A. Despise
- B. Love
- C. Positive
- D. Feelings
- E. Mutual

10. Glue is to stick as fire is to

- A. Heat
- B. Ice

- C. Cold
- D. Combustion
- E. Temperature

11. Acceptable is to satisfactory as essential is to

- A. Average
- B. Additional
- C. Vital
- D. Result
- E. Oil

12. Pupil is to school as lion is to

- A. Animal
- B. Zoo
- C. Tiger
- D. Urban
- E. Learn

13. Blunt is to sharp as ally is to

- A. Befriend
- B. Enemy
- C. Friend
- D. Helper
- E. War

14. Help is to assist as block is to

- A. Ease
- B. Reject
- C. Obstruct
- D. Facilitate
- E. Demonstrate

15. Letter is to alphabet as slice is to

- A. Cake
- B. Cut
- C. Knife
- D. Sharp

E. Sword

16. Car is to factory as doughnut is to

A. Bake

B. Baker

C. Food

D. Eat

E. Bakery

17. Enthralling is to captivating as new is to

A. Old

B. Newer

C. Replacement

D. Novel

E. Older

18. Classroom is to school as Senator is to

A. Congressman

B. Senate

C. Power

D. Election

E. Elect

19. Sad is to miserable as happy is to

A. Smile

B. Grin

C. Ecstatic

D. Peace

E. Contentment

20. Cowardice is to bravery as contract is to

A. Expand

B. Lawyer

C. Agreement

D. Promise

E. Signature

21. Brain is to think as fist is to

- A. Finger
- B. Foot
- C. Dance
- D. Hand
- E. Punch

22. Taxing is to difficult as gigantic is to

- A. Small
- B. Tiny
- C. Average
- D. Immense
- E. Miniscule

23. Damage is to destroy as breeze is to

- A. Weather
- B. Hurricane
- C. Rain
- D. Adverse
- E. Alert

24. Course is to meal as tree is to

- A. River
- B. Monkey
- C. Sunlight
- D. Connection
- E. Forest

25. Freedom is to captivity as extrovert is to

- A. Outgoing
- B. Sociable
- C. Introvert
- D. Intelligent
- E. Quiet

Arithmetic Reasoning

1. Two men are working on improving their cardiovascular health. One man goes for a 5-mile run in the morning. The second man doubles the length of the first man's run and then runs an extra mile on top. What is the total combined length of the two men's runs?

- A. 10 miles
- B. 15 miles
- C. 20 miles
- D. 16 miles
- E. 14 miles

2. A sports facility has 148 footballs. Over the first half of the year, 28 footballs are lost or damaged beyond use. The facility then purchases 14 footballs. Over the second half of the year, 36 footballs are lost or damaged beyond use. At the end of the year, how many usable footballs does the facility have?

- A. 94
- B. 84
- C. 98
- D. 88
- E. 96

3. A man has two hobbies. His first hobby is shooting, and his other hobby is wrestling. Due to travel times and other factors, for every extra hour he spends shooting, he must spend two fewer hrs wrestling. Initially, the man spends 20 hrs shooting and 12 hrs wrestling in an average month. He decides to spend four additional hrs shooting the next month. In that month, how many hrs does he spend wrestling?

- A. 4 hrs
- B. 8 hrs
- C. 6 hrs
- D. 10 hrs

E. 12 hrs

4. A worker makes \$10.50 an hour and works six hrs a day. If she works for five days a week, how much does she make in a week?

A. \$ 325

B. \$ 315

C. \$ 305

D. \$ 300

E. \$ 330

5. Three friends decide to rent a hotel room. During their stay, they cause damage and are presented with a bill upon leaving. The total bill is \$682. The first friend contributes \$242 to the bill. Assuming the two other friends split the remainder of the bill equally, how much does each pay?

A. \$ 280

B. \$ 240

C. \$ 220

D. \$ 231

E. \$ 210

6. A business goes through a difficult patch. It originally pays its salesmen \$20 per hour for their work. As a result of the difficult conditions, this wage is reduced by 25%. Business conditions then pick up, and the owners add 50% of the original wage onto the current wage of each employee. How much per hour does a salesman now make?

A. \$25

B. \$20

C. \$30

D. \$35

E. \$15

7. The total no. of workers a business can potentially employ is 24. The business pays all its workers \$15 per hour. The business is currently employing half of its total potential workforce. If the current workforce works for 6 hrs, what is the total paid by the business?

- A. \$ 1220
- B. \$ 1120
- C. \$ 1200
- D. \$ 1000
- E. \$ 1080

8. A woman decides to drive across an area. Her average speed is 60 miles an hour. Her total journey distance is 12000 miles. Assuming she drives at average speed, and for 10 hrs a day, what is the total distance she has covered after 3 days?

- A. 1400 miles
- B. 1200 miles
- C. 600 miles
- D. 2400 miles
- E. 1800 miles

9. An outdoors training organization purchases two plots of land. The first plot of land is 180 ft long. The second plot of land is 50% of the length of the first. What is the total length of both plots of land?

- A. 360 ft
- B. 370 ft
- C. 360 ft
- D. 290 ft
- E. 270 ft

10. A man opens a new bank account. The account pays interest on the last day of the month on the balance. He deposits \$140 in the first half of the month and \$540 in the second half. The interest rate is 10%. What is his balance on the first day of the second month the account is open?

- A. \$748
- B. \$680
- C. \$740
- D. \$728
- E. \$734

11. A man buys one piece of art for \$780 and a second piece of art for \$2800. A tax of 10% is applied to the price of the art. What is the total the man pays?

- A. \$ 3838
- B. \$ 3938
- C. \$ 3983
- D. \$ 3883
- E. \$ 3838

12. A small local table maker sells two kinds of tables. One kind of table costs \$40 and the other kind costs \$56. In the course of a 3 month period, the table maker sells 120 of the first kind of table and 600 of the second kind. What is the correct ratio for sales of the first table to sales of the second table?

- A. 1:3
- B. 1:4
- C. 1:5
- D. 1:6
- E. 4:1

13. A factory produces 8 toys in a day. Assuming the factory produces the same amount of toys every day, and is operational 7 days a week, how many toys does the factory produce in 4 weeks?

- A. 212
- B. 224
- C. 228
- D. 204
- E. 226

14. A man is looking to increase his body weight ahead of an athletic event. The man's starting weight is 220lb. In the first week of trying the man adds 5% to his initial body weight and in the second he adds an additional 5% of his starting weight to the total gained. After this two week period, what is the man's new weight?

- A. 240 lb
- B. 242 lb
- C. 244 lb
- D. 238 lb
- E. 236 lb

15. An organization uses two types of transport vehicle, vehicle A and vehicle B. Vehicle A is capable of holding 24 people and vehicle B is capable of holding 18 people. For a particular trip, the organization uses three vehicle As and two vehicle Bs. Every vehicle is filled to capacity. How many people are on the trip?

- A. 104
- B. 106
- C. 114
- D. 108
- E. 116

16. A charity has 440 supporters. This no. of supporters increases by 10% in the first month of a marketing campaign. The second month of the campaign increases the support by an additional

20% of the original total. After the second month, how many supporters does the charity now have?

- A. 484
- B. 564
- C. 524
- D. 572
- E. 526

17. A student collects two types of comics, known as comic 1 and comic 2. He has 160 copies of comic 1 and 40 copies of comic 2. In order to raise money, the student sells half of his collection of comic 1 and keeps his entire collection of comic 2. After the sale, what is the ratio of comic 1 to comic 2 the student now has?

- A. 3:1
- B. 2:1
- C. 1:3
- D. 1:4
- E. 1:2

18. A drink is being made which comprises of three diverse components, component A, component B and component C. The drink must have 3 scoops of component A, 2 scoops of component B and 4 scoops of component C. This ratio is fixed. To make enough for a group of friends, 18 scoops of component A are needed. In this situation, how many scoops of component C are required?

- A. 24
- B. 20
- C. 18
- D. 28
- E. 22

19. An athlete is carrying out a fitness test. The first time they take the test, they score 30 points. They retake the test and receive a third fewer points than their original test. They take the test for a third and final time and score double the result of their second test. How many points does the athlete score on the third and final test?

- A. 30
- B. 50
- C. 20
- D. 60
- E. 40

20. A building where a company is based has two floors. The first floor has space for 75 sales workers. The second floor has a third of the capacity of the first floor. What is the total no. of workers the building has space for?

- A. 85
- B. 95
- C. 100
- D. 105
- E. 115

21. A company gives its workers a pay rise depending on the time they have spent with the company. After the first year, workers receive a 10% rise. After the second year, they receive a flat increase of \$3000. A worker begins their time at the company on \$20,000. After two years have passed, how much do they now make?

- A. \$25000
- B. \$24000
- C. \$23000
- D. \$27000
- E. \$26000

22. A community sports facility is looking to re turf their space. One roll of turf covers 40 square ft. The sports facility has three rolls of turf. If the total space of the facility is 240 square ft, what percentage of the space is the facility able to re turf?

- A. 40
- B. 50
- C. 25
- D. 45
- E. 60

23. Two brothers are fans of a local fried chicken eatery. The eatery offers a reward card. With the reward card, you earn 3 points for every \$12 spent. Over the course of a month, the first brother spends \$72. The second brother spends \$96. In this time, what is the total no. of points earned by the two brothers?

- A. 36
- B. 48
- C. 45
- D. 42
- E. 33

24. A gym organizes a fitness boot camp with a fixed no. of instructors. Each instructor will be responsible for training a no. of students. Initially, 60 students sign up, but this number increases by 25%. At the last minute, an additional 5 students join. If there are 8 fitness instructors, teaching an equal no. of students each, how many students will each instructor be responsible for?

- A. 7
- B. 12
- C. 8
- D. 10
- E. 6

25. A farmer has 120 rare pigs. In a particular year, these pigs are worth more than usual. He sells 30 as a result. The farmer then buys 10 of the same type of pig. Finally, the farmer sells one quarter of the original quantity of pigs. How many pigs does the farmer have left at the end?

- A. 70
- B. 90
- C. 80
- D. 85
- E. 75

Word Knowledge

1. **Replace** is closest in meaning to

- A. Rewind
- B. Recipe
- C. Borrow
- D. Steal
- E. Substitute

2. Qualifying is a **difficult** process.

- A. Easy
- B. Lengthy
- C. Dull
- D. Arduous
- E. Random

3. **Crooked** is closest in meaning to

- A. Evil
- B. Criminal
- C. Basic

D. Chimney

E. Bent

4. They were worried that the goods were **counterfeit**.

A. Fake

B. Unfit

C. Legitimate

D. Stolen

E. Spoiled

5. **Possess** is closest in meaning to

A. Demon

B. Show

C. Steal

D. Have

E. Take

6. They **gawked** at the unbelievable sight before them.

A. Laughed

B. Frowned

C. Stared

D. Pointed

E. Ignored

7. **Outstanding** is closest in meaning to

A. Outside

B. Excellent

C. Outlier

- D. Good
- E. Better

8. They decided to **halt** the interview until the noise stopped.

- A. Mute
- B. Pause
- C. Hurry
- D. Forget
- E. Start

9. **Cry** is closest in meaning to

- A. Whisper
- B. Tear
- C. Emotion
- D. Sob
- E. Smile

10. He managed to **retain** most of the information from the presentation.

- A. Remember
- B. Steal
- C. Smuggle
- D. Forget
- E. Retrain

11. **Cherish** is closest in meaning to

- A. Cherub
- B. Like
- C. Adore

- D. Hate
- E. Check

12. He decided to **mark** the substandard products with a red sticker.

- A. Deface
- B. Mar
- C. Label
- D. Paint
- E. Decorate

13. **Slothful** is closest in meaning to

- A. Animal
- B. Lazy
- C. Shy
- D. Tired
- E. Depressed

14. After years of hard work,he was finally happy with his **place** in the company.

- A. Desk
- B. Status
- C. Salary
- D. Colleagues
- E. Perks

15. **Mute** is closest in meaning to

- A. Silent
- B. Pause
- C. Quiet

D. Volume

E. Noise

16. The teacher would have preferred the assignment in the form of a **narrative**.

A. Presentation

B. Project

C. Story

D. Speech

E. Monologue

17. **Choose** is closest in meaning to

A. Decision

B. Loose

C. Force

D. Select

E. Make

18. After looking at the time, they decided to **dash** home.

A. Stroll

B. Run

C. Ride

D. Skate

E. Go

19. **Judge** is closest in meaning to

A. Deem

B. Prison

C. Enable

D. Support

E. Hinder

20. They did not view the opposing side as at all **mighty**.

A. Classic

B. Able

C. Capable

D. Experienced

E. Powerful

21. **Substandard** is closest in meaning to

A. Regulation

B. Technicality

C. Specification

D. Underwrite

E. Inferior

22. Although it wasn't the best service, it was always **prompt**.

A. Brief

B. Punctual

C. True

D. Acceptable

E. Fair

23. **Hate** is closest in meaning to

A. Dislike

B. Dismantle

C. Detest

D. Dominate

E. Infatuate

24. He was most worried about his **stutter** ruining the demonstration.

A. Talk

B. Skip

C. Shake

D. Shock

E. Stammer

25. **Reflect** is closest in meaning to

A. Contemplate

B. Shine

C. Deny

D. Glass

E. Find

Mathematical Knowledge

1. John and Chris are working in a burger place, John produces D burgers each hour for 5 hrs, while Chris produces B burgers each hour for 6 hrs. Which of the subsequent represents the total no. of burgers produced by John and Chris?

A. $11DB$

B. $5D + 6B$

C. $30DB$

D. $65 + DB$

E. $5B + 6D$

2. If $20 + x$ is 5 more than 20, what is the value of $4x$?

A. 5

- B. 4
- C. 10
- D. 20
- E. 30

3. A total of 120,000 votes were cast during a yes or no ballot in a city to determine whether a new local law would be passed. If the ratio of yes to notes was 4:1, how many no votes were cast?

- A. 20,000
- B. 24,000
- C. 18,000
- D. 16,000
- E. 26,000

4. A special savings account is offered for military personnel only. The account pays interest on the balance at different times over the year. 3 months after the start of the year, 10% interest is added to the balance. 8 months after the start of the year, 20% interest is added to the balance. Finally, 11 months after the start of the year, 10% interest is added to the balance. A man begins the year with \$50,000 dollars in the account. How much does he have at the end of the year, assuming he makes no deposits or withdrawals?

- A. \$72,600
- B. \$70,000
- C. \$55,000
- D. \$60,000
- E. \$75,800

5. Find the LCM of 30, 20 and 10

- A. 600
- B. 40

- C. 60
- D. 300
- E. 120

6. How many possible outcomes are there when rolling two standard six sided dice?

- A. 12
- B. 36
- C. 18
- D. 26
- E. 6

7. If $f(x) = 4x^3 - 4x^2 + 10$, then $f(-2) =$

- A. -38
- B. 26
- C. 38
- D. -26
- E. 24

8. The inequality corresponding to the statement: "the cost is no less than 200 Dollars" is

- A. $x < 200$
- B. $x > 200$
- C. $x \geq 200$
- D. $x \leq 200$
- E. $x = 200$

9. If $y = 3^x$ and x and y are both integers, which of the following is equivalent to $9^x + 3^{x+1}$?

- A. $y(y + 9)$
- B. $y(y - 3)$

C. $y(y \times 9)$

D. $y(y + 6)$

E. $y(y + 3)$

10. Solve $15r - 10 - (-7r) + 5r + 3$

A. $20r - 5$

B. $27r - 13$

C. $20r + 10$

D. $9r + 7$

E. $27r - 7$

11. The area of a rectangle is 81 ft square. If the rectangle has a height of 9 ft, what is its width?

A. 7 ft

B. 70 ft

C. 8 ft

D. 9 ft

E. 72 ft

12. Which of the following is not part of the five number summary?

A. Mean

B. Q3

C. Q1

D. Median

E. Maximum

13. What is the GCF of 64 and 28?

A. 12

B. 8

C. 16

D. 4

E. 14

14. Simplify $10x^2 + 5x - 3x^2 - 7x$

A. $13x^2 - 2x$

B. $7x^2 + 2x$

C. $7x^2 - 2x$

D. $7x^2 + 10x$

E. $7x^2 + 12x$

15. A survey is taken where people have to answer a question by giving either answer X or answer Y. 240,000 people take the survey. If 60,000 people give answer X, what is the ratio of people who answered X to people who answered Y?

A. 1:2

B. 2:1

C. 1:3

D. 1:4

E. 4:1

16. Solve $9 + 3x < 0$

A. $x > 3$

B. $x > -3$

C. $x < 9$

D. $x < 3$

E. $x < -3$

17. Solve the following

$$5x + 6y = -7$$

$$5x - 6y = 17$$

A. 1, -3

B. 1, -2

C. 1, 2

D. -1, 2

E. 1, -1

18. Solve the following

$$-10x - 7y = 8$$

$$10x + 10y = 10$$

A. 6, 5

B. -3, 5

C. -4, 6

D. -5, 6

E. 5, 6

19. Simplify: $(-5y^3 + 4y^2 - 3y) - (6y^3 - 3y^2 - 10y)$

A. $-11y^3 + 7y^2 + 7y$

B. $-11y^3 + y^2 + 7y$

C. $-11y^3 + 7y^2 - 13y$

D. $11y^3 - 7y^2 - 7y$

E. $11y^3 - 7y^2 - 14y$

20. Which of the following is another name for the high quartile?

A. Q1

B. Q2

- C. Q3
- D. IQR
- E. -Q

21. Which of the following represents the correct order of operations?

- A. PEDMAS
- B. PDEM AS
- C. PEDMSA
- D. PEMDAS
- E. PEMADS

22. Find the mode of 12,10,7,8,11,8,9,10,10,7,10,11,8,6

- A. 12
- B. 11
- C. 7
- D. 8
- E. 10

23. Solve $4x - 1 \geq 5 - 2x$

- A. $x \geq 2$
- B. $x \geq 1$
- C. $x > 1$
- D. $x \geq 5$
- E. $x < 2$

24. $27k + -k = 26$. $k =$

- A. 1
- B. 27

C. -27

D. -1

E. 26

25. $7g - 4g = 18$. $g =$

A. 8

B. 7

C. 6

D. 4

E. 2

Reading Comprehension

Passage 1

A problem that is intimately tied to the limits of naval armaments and the collaboration of the fleets of the world in maintaining the freedom and safety of the seas is the topic that we are discussing here. In addition, the subject of restricting naval weaponry raises the broader and possibly more challenging question of restricting armies as well as every one of the programs that are designed to prepare the military.

In spite of the fact that these concerns are challenging and delicate, they need to be confronted with the greatest integrity and settled upon in a mindset of genuine accommodation if peace is to arrive with healing in its wings and remain within the realm of possibility. Without making concessions and making sacrifices, peace can't be achieved. It is impossible for there to be a feeling of safety and equality amongst the nations if, from this point on, large armies that dominate the situation continue to be constructed and kept in various locations.

Statesmen all over the world are obligated to make preparations for peace, and nations are obligated to change and accommodate their policies to peace in the same way that they have prepared for war and prepared for a fierce competition and rivalry. It is a particularly directly relevant and profoundly practical question related with the future fortunes of nations and of mankind that concerns the question of weaponry, regardless of whether they are on land or at sea.

Without any reservations and with the highest transparency, I have spoken about these significant topics because it has appeared to me that it is important if the burning longing for peace that exists across the world is able to locate a place where it can freely express itself and be heard. Amongst all the peoples of the globe, it is possible that I am the only person in a position of high authority who is free to talk without any restrictions and who holds nothing back.

Despite the fact that I am speaking as an individual, I am also speaking, of course, as the accountable head of a major government, and I am certain that I have conveyed the message that the people of the US would have wanted me to convey. In addition, I would want to express my hope and belief that I am, in fact, speaking for liberals and supporters of mankind in every nation and for every program of liberty.

I have a strong belief that I am speaking for the silent mass of people all over the world who have not yet had the chance or the place to express their genuine feelings about the death and destruction that they perceive to have already befallen the people and the houses that they hold especially precious.

1. The primary purpose of the passage is to

- A. Explore how the United States can sustain a military advantage
- B. Consider how worldwide peace can be achieved
- C. Discuss how statesmen are unable to impact world stability
- D. Talk about how only a small minority of the world wants peace
- E. Argue that only an increase in army sizes will lead to peace

2. The author is speaking on behalf of

- A. America only
- B. Himself only
- C. America and Great Britain
- D. Himself, his nation and people across the world
- E. His political party

3. The author feels that the world

- A. Desires peace strongly
- B. Needs peace even though it does not desire it
- C. Will never achieve peace
- D. Is not suited to peace by nature

E. Requires larger nations to dominate smaller nations

4. From the following options, the author is most likely to agree that

A. A great war must first be fought before peace can be achieved

B. Advances in Naval technology will lead to a lasting state of peace

C. Peace is needed to prevent further destruction of people and property

D. America is the only country with a genuine desire for peace

E. Every world leader calls openly and honestly for peace

5. The fourth paragraph states that the author has been able to

A. Relay their true feelings but only in coded language

B. Speak freely and clearly about their views on the matter

C. Travel round the world sharing their views to large audiences

D. Conduct groundbreaking academic research on war and peace

E. Convince his nation that bigger and stronger armies are needed for peace

Passage 2

The value of exporting and importing, as well as the buying and selling of nearly every possible item beneath the sun, is carried out in the millions and millions of dollars in a country such as the US of America, or any other great nation. The organization for conducting this business has grown so flawless across each great nation that the products of the farthest countries are able to be purchased in nearly every village. Furthermore, any significant event that occurs in any country generates a noticeable impact wherever the mail and telegraph go.

The organization that is responsible for bringing about this in each and every country is so beautiful and outstanding that it is almost like a machine.

Indeed, it is a machine, complete with every one of the flaws that are associated with machines. Currently, one of the flaws of a machine, a flaw that becomes more significant as the machine's complexity develops, is the massive disruption that can be caused by a cause that appears to be of little consequence. The fact that this is the case with the machine that is the foundation of the commerce of every major nation is something that is confirmed by routine observation. So long as the steamers continue to arrive and depart as per to their predetermined schedules, so long would the money continue to arrive at the appropriate intervals and be dispersed through the different channels; so long will the people continue to live the lives to which they have become used; and so long will order continue to rule.

Nevertheless, let's imagine that a blockade suddenly halted the movement of all of the steamers, both inbound and outbound. While it is possible that, in a nation like the US, there is no real need for foreign trade; while it is also possible that the people of the US might be equally happy, albeit not as wealthy, if they did not have any foreign trade; however, the sudden cessation of foreign trade wouldn't bring concerning a condition similar to the one that would have taken place if we didn't have any foreign trade; rather, it could bring about an erratic scenario that can't be adequately stated by a word that is less than "horrible." Everything that is necessary for day-to-day living would be rendered inoperable. In addition, the whole impetus of the quickly moving massive mass of American daily life could be subjected to a tremendous shock, which would stretch every component of the entire machine to its elastic limit. This would result in the loss of employment for hundreds of thousands of people.

6. The author's main aim in this passage is to

- A. Argue that America would be a better place without foreign trade
- B. Discuss the impact of international trade on everyday American life
- C. Discuss how other nations profit unfairly by trading with America
- D. State how the average American is not impacted by world trade
- E. Explain how America would be far happier if it didn't import anything

7. In the final paragraph, the author most closely states that

- A. A small no. of people would lose their jobs if foreign trade stopped
- B. Only certain industries are impacted by international trade
- C. International trade would only ever stop slowly and gradually
- D. America would remain orderly and organized should foreign trade cease
- E. A sudden cessation of international trade would severely impact many aspects of American life

8. In the third paragraph, the author identifies which of the following relationships

- A. An increase in complexity results in a greater likelihood of disruption
- B. A decrease in complexity results in a greater likelihood of disruption
- C. Complexity and disruption have no relationship with each other
- D. As a nation trades more goods, it loses its own national character
- E. An increase in exports leads to an increase in unemployment

9. The word 'trivial' in the third paragraph is closest in meaning to

- A. Important
- B. Obvious
- C. Insignificant
- D. Hidden
- E. Archaic

10. The first paragraph most closely states that

- A. The USA is the only nation which engages in large-scale international trade
- B. Smaller nations have nothing to offer international trade
- C. Foreign goods reach only major cities
- D. The USA and nations of a similar stature both import and export at a large scale
- E. Only a few specific types of goods should be imported into the USA

Passage 3

One of the consequences of a global conflict is that there will be a substantial rise in the demand for work at high and increasing salaries. This is a circumstance that we may assume will go to the laborer's greatest benefit. On the other hand, this will be contingent upon his own policies and attitude. We hear accounts of wage earners from England and from American communities here and there who have stopped working throughout the week because the higher wage scale has paid them the amount that they are acclimated to consider to be a week's earnings. These wage earners have reported that their increased income has resulted in a reduction in the amount of effort required to work their job. Now, would it not seem logical to suppose that any guy who comes across enhanced market circumstances for his production, whether it be of a commodity or a service, would attempt to use the circumstances to his benefit by raising that output as much as it was within his capacity to do so?

If, for example, I am able to manufacture shoes that could be sold for \$4.00 per pair, and if there is a shift in the market circumstances that allows me to get \$5.00 per pair, I would make an attempt to generate additional pairs so as to profit from the ideal market. Furthermore, if the price of the shoes were to increase to \$6.00, \$7.00, and \$8.00 per pair, then my efforts would get even more intense at each successive increment. That is, in fact, the typical point of view regarding the economy. It is anticipated that variations in the price level caused by shifts in the demand for commodities will have an effect on the market supply, and these swings do in fact have an effect. A higher price encourages production, which in turn results in an increase in the number of units of the commodity that are introduced to the market. These units come from both new sources and

old sources. In the event that prices were to decrease, on the contrary, the quantity that was available on the market would inevitably decrease.

In spite of the fact that this is a fundamental principle that is widely accepted in economics, the worker to whom we have just alluded doesn't seem to identify it. It is possible that he will discover that he is able to earn an amount that is equivalent to his previous earnings in six days in just four days. As a result, he will decide to resign his job for the week at the conclusion of the fourth day. Now, of course, given the fact that the wage scale is expanding, he may do any one of the following three things:

1. After receiving a week's worth of money, he had the option to resign his job at the conclusion of the fourth day.
2. He could keep working for the next six days and spend the additional money he earned to purchase luxuries, pleasures, and comforts that he was incapable of paying for in the past.
3. He will likely work over the six days and put aside as much of his surplus earnings as he can.

11. The passage is primarily concerned with

- A. Examining the choices of workers in response to a changing economic environment
- B. Explaining the economics of shoe production
- C. Stating that workers usually behave in a way which makes them the most money
- D. Arguing that workers are powerless in how they respond to a changing economy
- E. Advocating for greater worker rights and freedoms

12. The author most closely believes that

- A. Workers will do whatever it takes to make the most money
- B. A worker's previous experience of earning money will impact their present and future decisions
- C. A worker will always choose the least difficult occupation available to them
- D. Workers only spend additional money on greater quantities of essential goods
- E. There is no right or wrong way for workers to act

13. Regarding an increase in price, the author states

- A. Fraudulent production of goods increases in response

- B. Fewer goods are typically supplied
- C. More goods are supplied from new sources alone
- D. Old sources of goods monopolize the supply side of industries
- E. More goods are typically supplied from both new and existing sources

14. The first paragraph states that

- A. American workers are not comparable to British workers
- B. Workers care a lot more about money than about leisure
- C. Similarities exist among American and English workers
- D. Workers incomes always remain static
- E. War does not impact the conditions of the labor market

15. In the first paragraph, the writer makes use of

- A. A foreign language phrase
- B. A metaphor
- C. A rhetorical question
- D. A simile
- E. A statistical example

Passage 4

For just one purpose, Count von Zeppelin established his own field of study and way of thinking. As a veteran campaigner and a student of military affairs, he became aware of the deficiencies that were present in the methods that were now being used for scouting and reconnoitring. If the commander-in-chief of an army were to be offered with establishments for peering down onto the scene of operations, and assuming he were given the ability to gain benefit of every resource that accrues to the man above who sees everything, then he would find himself in an advantageous position, and he would have the ability to get rid of his forces and set up his plan of campaign to the greatest possible benefit. He liked this better than any other individual of the day, possibly. To put it another way, Zeppelin thought of and created his airship for the sole purpose of serving in the one and only field of application, which was military operations. Despite the fact that it has been successful in other areas, these accomplishments have been secondary to the core goal, and they have only served to highlight the military worth of the product.

Since the very beginning of his investigation and line of thinking, Von Zeppelin was hampered in his ability to succeed. He had large-scale dreams that he wanted to come true. It is always the case that the gigantic makes an unusual and powerful appeal to the nature of the Teutonic people.

Therefore, he found himself pondering the idealization of a large dirigible, which would surpass in every way anything that had previously been attempted or was anticipated to be undertaken by competing nations. Regrettably, the realization of the "colossal" requires a similarly enormous financial reserve, and the person who developed this type of airship had, for a number of yrs, the most severe expression of financial cramp. The fact that Fortune played him such humiliating tricks was perhaps for the betterment of the entire planet. It was very successful in putting a damper on the expansion of German ambitions in a certain direction.

It is common knowledge that Zeppelin developed what could be described as a distinctive stream of thought in relation to the activities he engaged in with his airship. He adopted what is known as the indeformable airship, which is another way of saying the hard version of the craft, as opposed to the semi-rigid and flexible versions. As a result of patient experiment and carried on investigates he arrived to the decision that an enormous outer envelope grabbing the shape of a polygonal cylinder with hemispherical ends, built upon significant lines with a metallic skeleton wrapped in an inaccessible skin, and charged with a variety of smaller balloon-shaped vessels that included the raising agent—hydrogen gas—would fulfill his requirements to the greatest advantage. These lines served as the foundation for more and more models. Every single one of them was put through a series of searching tests, and the results for such work with models were always the same. There were some who lived up to the inventor's expectations, while there were others that steadfastly refused to illustrate his rationale in any and all directions.

16. The main aim of this passage is to

- A. List the different industries the Zeppelin airship has impacted
- B. Explore the purpose and history of Zeppelin's airship
- C. Show how Zeppelin was in a close race with other nations to develop the airship
- D. Explain how the airship was achieved in spite of Zeppelin's limited vision
- E. Show how the first model of airship was successful right away

17. Which of the following assertions is not found in paragraph 1?

- A. Zeppelin knew the advantage of top-down surveillance during war
- B. Zeppelin always intended his airship to have military usage
- C. Zeppelin's airship has achieved some non-military success
- D. Zeppelin was initially unsure of how the airship would be used
- E. Zeppelin studied matters related to the military

18. The word 'searching' in the final paragraph most closely means

- A. Thorough
- B. Seeking
- C. Lost
- D. Innovative
- E. Brief

19. In the second paragraph, the author states the opinion that

- A. America was close to developing a rival airship at the same time
- B. The world would have been better off with a more advanced airship
- C. The airship helped to prevent serious wars
- D. The airship reduced poverty levels for average Germans
- E. Financial restrictions helped the state of humanity

20. The author feels that

- A. The Zeppelin airship is more suited to civilian than military use
- B. The Zeppelin airship did not undergo the proper levels of testing
- C. The Zeppelin airship is best used for its original purpose
- D. The Zeppelin airship is primarily used as an attack vehicle
- E. The Zeppelin airship was a military failure

Passage 5

As a result, the process of education is carried out by means of the lessons on flying in a straight line, making gradual turns, misusing controls, sliding to the side, and approaching, taking off, and landing. On average, the tours should last among thirty-five and forty mins. This is a sufficient amount of time to impart the lesson, but not so long that the student becomes exhausted. The student is presented with the most challenging aspect of his training right here, during the take-off and landing phases of the exercise. With the center of gravity just balanced over the undercarriage, he has the challenge of bringing a massive machine that weighs at least a ton to a halt when it is going at a landing speed of forty to fifty miles per hr. If there is a mistake in judgment, the machine will end up on its snout, with the propeller of the machine having crashed, and maybe two wings destroyed and the undercarriage being damaged. Although it was not a dangerous mishap for the pilot, it was extremely embarrassing.

A student ought to have approximately sixty practice landings dual, which means that he or she should be taught and assisted by their instructor. This is as per to the findings of Army practice. From this point on, he has a total flight time that ranges from six to twelve hours. At this time,

before he goes solo, the Gosport system stipulates that he will be transported to a height that is somewhat secure for the purpose of practicing high maneuvers. It is at a height of around two thousand five hundred ft that the instructor demonstrates to him how a machine that has become stuck will begin to spin. The subject of whether or not civilian pilots should be taught higher maneuvers is one that is up to debate.

As soon as the instructor begins to turn off the motor, the machine begins to quickly decrease its speed while in flight. It approaches a point wherein there is not sufficient air moving over the surfaces of the wings to keep the plane in the air after it has reached this point. At the same time that her nose starts to droop, he draws the stick back. She stalls, topples over on her side, and dives snout first into the water with the stick in her full back position. When the instructor kicks on full rudder, the world swirls below like a top, and the air whistles, swish, swish, swish, in the wires at each turn. The instructor is a pilot. Move ahead with the opposite rudder, and she will emerge from the water so quickly that your head will swim. The spin is as follows.

"It is now your turn to try it," the instructor continues. Because there is nothing to a spin until a machine fails to emerge out of it, which is an extremely unusual occurrence if the plane is handling itself correctly. The student is now prepared to fly on his own, and for the first couple of hours of his solo flight, he does nothing but make circles around the field, landing and taking off. Afterwards, his instructor takes him back for the purpose of forced-landing practice, which involves the process of gliding turns to descend into a field that is within gliding range. Thereafter, the student gives it a go on their own, reducing the speed for the sake of practice. This is an extremely beneficial experience that boosts the pilot's self-assurance. He is taught to make use of his own discretion and to evaluate the distance among himself and the ground based on how it appears from above.

An further demonstration of higher maneuvers, spinning, and the stall turn is set to take place after the student has had three or four hours of time to work on herself or herself. In order to achieve a speed of seventy-five miles per hour, the pilot will nose the machine down in order to perform the stall procedure. With her nose pointing upward and her propeller roaring, she makes a slight bank and then pulls back, bringing her back into the air. To the full rudder and off the throttle. As she falls over onto her side and into the empty air, she does so in complete stillness. The blue sky and green fields pass past in a whirlwind. During the time that the passengers are struggling against the safety straps, she is hanging on her back, and then her nose comes down. At the same time that the ground is rising at a tremendous rate, the air in the wires is screaming.

21. This passage is mainly concerned with
- A. Explaining the benefits of new aircraft types
 - B. Stating that pilots should never fly solo until fully trained
 - C. Discussing the process by which instructors train pilots
 - D. Exploring the flight maneuvers which are most likely to lead to death
 - E. Explaining how pilots are trained to bomb an enemy position
22. The error discussed in the first paragraph leads to
- A. Minor physical injury for the pilot and plane
 - B. Embarrassment but no personal danger
 - C. The risk of death for the pilot
 - D. Risk of injury to both pilot and bystanders
 - E. Risk of injury for the instructor but not pilot
23. The first paragraph states that instructors must
- A. Choose a time period of instruction that educates the learner without tiring them
 - B. Choose a type of aircraft which won't intimidate their pupil
 - C. Choose a weapons system understandable by newcomer pilots
 - D. Undergo specific instructor training for at least two years
 - E. Have a period of at least ten years military experience
24. The effect of the training carried out in the third paragraph is
- A. A license to teach others the same maneuvers
 - B. A lack of ability to fly civilian aircraft
 - C. Decreased ability to judge depths and distances
 - D. Increased levels of self-belief and assessment ability
 - E. An ability to fly effectively in extreme weather conditions
25. The second paragraph states that teaching non-military pilots certain techniques is
- A. Universally encouraged
 - B. Universally discouraged
 - C. Neither encouraged or discouraged
 - D. Something which never occurs
 - E. Open to debate

Situation Judgment

Situation 1

While recording the results for your squadron's Physical Fitness Test, you notice that another officer is recording the incorrect scores for fellow officers. Specifically, they are making the scores better and thus helping other military members to pass the PRT that wouldn't be able to.

Here are your potential actions:

- A. Confront the officer, informing him that you see what he is doing and to cut it out.
- B. Don't say anything, but keep a watchful eye on that officer.
- C. Send an anonymous note informing them that their actions have been noted.
- D. Report the infraction to a superior.
- E. Take notes of the real scores, and change the documents later.

1. What's the most effective action?

2. What's the least effective action?

Situation 2

You have been working a high-octane role for over two years and seen your peers move on to other units that have come after you did. Having performed the job adequately, but tired of the high tempo, you contact some buddies from other units in order to scope out some other jobs that might become available soon. However, word gets out that you are looking to leave earlier than your orders have you, and rumors circulate as to your reasoning for the early release from the job.

Here are your potential actions:

- A. Deny publicly your desire to leave, but continue to work for early release.
- B. Ignore the rumors and continue to look for opportunities.
- C. Acknowledge the rumors, but ensure you double down on your current job.
- D. Inform your CO of your request to leave early and acknowledge the rumors publicly.
- E. Request advice from your CO on the best action to take for your career.

3. What's the most effective action?

4. What's the least effective action?

Situation 3

You've been with the unit for just over a year, and your work has been exemplary. However, recently, multiple pieces of equipment under your responsibility have happened to break down. Poor maintenance is not the cause, nor neglect. However, the equipment is outdated and needs replacement. Your Commanding Officer, however, feels as though the break downs occurred due to your oversight on maintenance practices and has expressed his displeasure with your work.

Here are your potential actions:

- A. Make no excuse, and double maintenance checks so as to reduce chance of failure.
- B. Request a leave of absence to collect your thoughts and create a plan.
- C. Meet with the CO and explain how the Supply Department, and their lack of cooperation, is causing the problem.
- D. Meet with the CO and argue your case so as to ensure they understand your situation.
- E. Collect sufficient data showing the longevity requirements of the equipment, and meet with the CO so as to present a plan moving forward.

5. What's the most effective action?

6. What's the least effective action?

Situation 4

One of the members in your unit is starting to show a major decline in performance. They seem tired, and although they used to be motivated, they now have a heavy negative attitude towards work. Worst yet is that this particular member is one of the more popular members of the unit and is having a negative affect on everyone else.

Here are your potential actions:

- A. Give it time since the member has always been an outstanding worker.
- B. Meet with the member privately and inquire as to what is going on that might be affecting the decline in performance.
- C. Point out the member's decline in performance at the next unit meeting in front of everyone so as to set an example.
- D. Look to have the member transferred from the unit so as to improve the team's effectiveness
- E. Inform a senior officer in their chain of command about the situation.

7. What's the most effective action?

8. What's the least effective action?

Situation 5

You have been paired with another officer in a different squad to conduct an independent spot check of maintenance practices. As you begin, you realize that the other officer isn't taking the spot check seriously and is putting little effort into the inspection.

Here are your potential actions:

- A. Work through the problem and hope that the other officer picks up the slack once he sees your good work.
- B. Discuss with the other officer your perception of their work and negotiate a fair division of work to complete the task.
- C. Tell your senior officer about the situation.
- D. Tell the other officer's senior officer about his lack of work.
- E. Request someone else work with you on the inspection.

9. What's the most effective action?

10. What's the least effective action?

Situation 6

Having just transferred into a new unit, you see certain areas that your new unit can improve upon and some processes that can become much more effective and efficient if done another way. However, your senior officer does not agree with your recommendation and has informed you that you will continue doing it the original way.

Here are your potential actions:

- A. Write up a detailed report with support data and facts, and present it to your senior officer.
- B. Gain the support of your co-workers and then bring it up to the senior officer.
- C. Implement your plan, and when it has proven to work, inform the senior officer.
- D. Accept the senior officer's decision, but log all the inefficiencies due to their decision.
- E. Accept the senior officer's orders, and do your best to follow them.

11. What's the most effective action?

12. What's the least effective action?

Situation 7

You and another officer have been selected by the CO to sit on an award board. Here you will go through the different award submissions and submit your recommendations to the CO. However, you have a feeling that the other officer is playing favoritism and choosing only those that work with him instead of being fair.

Here are your potential actions:

- A. Report the officer to your CO.
- B. Inform your CO of the potential bias made by the officer and request someone else be on the board with you.
- C. Continue with the process, understanding that the CO took into account the potential for bias opinion which is why they selected two officers to sit the board.
- D. Counter the officer's picks with your own.
- E. Confront the officer and ask them to explain specifically why they feel as though their people deserve the majority of the awards.

13. What's the most effective action?

14. What's the least effective action?

Situation 8

Another officer in your squadron took emergency leave so as to attend to his sick mother who is in the hospital. However, you find out from someone else in the command that his mother isn't sick, but that they just wanted to go on vacation to the Bahamas instead.

Here are your potential actions:

- A. Report the officer to your CO
- B. Find proof that they aren't where they said they'd be and then present the evidence to your CO
- C. Disregard the information and move on
- D. Talk with the officer once they get back and let them know that many people in the unit know about what he did, and that you'll report any further actions like that in the future.
- E. Inform the officer that you know what they did and that you'll report them unless they do an extra duty section for you.

15. What's the most effective action?

16. What's the least effective action?

Situation 9

Right after hitting "send," you realize that you included secret information inside the email you just sent to a coworker on an unclass system.

Here are your potential actions:

- A. Delete your sent file, and have the recipient not read it upon receipt and delete it as well.
- B. Inform your security manager of the infraction.
- C. Do nothing since the recipient has secret access.
- D. Send a follow up email informing the recipient of the situation and act upon their recommendation.
- E. Forward the email to your supervisor or a senior officer.

17. What's the most effective action?

18. What's the least effective action?

Situation 10

You and another officer in your unit have been selected to write up a Standard Operating Procedure (SOP) on a new flight prep. However, after a couple of days, the other Officer goes on emergency leave due to his child becoming very sick. At first, you work through the SOP, however you need that officer's expertise in order to adequately finish the job and there still is no word on when the other officer will be back from leave.

Here are your potential actions:

- A. Without making an excuse, request for an extension on the SOP due date.
- B. Inform your CO of the situation, and request assistance due to your need for a certain expertise.
- C. Work to complete the report as best you can.
- D. Even if it means delaying the report, wait on the other officer to return.
- E. Find another officer and get them to assist you.

19. What's the most effective action?

20. What's the least effective action?

Situation 11

After completing an inventory check, you realize that certain parts are being used at a greater rate than normal. Checking the backlogs on maintenance, there's no explainable reason for the overuse of a particular part that is now in low supply. After checking the maintenance logs, you notice that one particular Airmen has been on shift the most when the part is logged out. You have no evidence, but you are starting to suspect that the Airmen is taking the part home and selling it online.

Here are your potential actions:

- A. Try to collect more data and catch the Airmen in the act.
- B. Tell you a senior officer of your suspicion.
- C. Ignore the issue since all logs are up to date and accounted for logistically.
- D. Approach the Airmen and inform them of the high use of the part and ask if they know why this is.
- E. Ask other officers if they've noticed anything unusual about the Airmen and the parts.

21. What's the most effective action?

22. What's the least effective action?

Situation 12

You've just transferred into a new unit, and you've been placed in a role that you have little experience with. However, after meeting your Sergeant, you find out that you will be in charge of a highly important evolution. This is echoed by your Commanding Officer who asks if you are ready and able to perform the evolution.

Here are your potential actions:

- A. Answer yes, but then find someone in your unit to help you get up to speed.
- B. Answer yes, and show confidence in your ability.
- C. Answer no, and recommend someone who has been in the unit longer take on the evolution until you're acclimated.
- D. Answer no, but that you are prepared to will work hard to get up to speed and be ready for the evolution and will also come up with a backup plan in case you aren't.
- E. Answer no, and request that this evolution be schedule for another time.

23. What's the most effective action?

24. What's the least effective action?

Situation 13

As the last one out of the office, you finally return to your home where you immediately remembered that you forgot to lockup the safe holding sensitive material.

Here are your potential actions:

- A. Call your security manager and inform him of the situation.
- B. Rush back to work so as to lock it up.
- C. Plan to go in early and lock it up before anyone gets in.
- D. Call someone who is closest to the office and have them lock it up.
- E. Ignore it because security does checks throughout the night.

25. What's the most effective action?

26. What's the least effective action?

Situation 14

It's become evident that another junior officer is very competitive with you and is constantly undermining your work. It feels like they go out of their way to criticize you and one-up you in exercises and other evolutions.

Here are your potential actions:

- A. Reciprocate the actions back at them so as to even the situation.
- B. Report their behavior to your Commanding Officer.
- C. Inform your peers and coworkers of this officer's behavior.
- D. Meet with the junior office and discuss with them your observations and see if there is a way for you two to work better together.
- E. Find someone who is on good terms with both you and the junior office to be a mediator and help improve the situation.

27. What's the most effective action?

28. What's the least effective action?

Situation 15

The local community leaders have called a meeting with the base senior leaders over their complaints of noise violations created by jet flight operations. You've been asked to attend and during the meeting, one of the community leaders turns to you to ask what you think since you also live in the community.

Here are your potential actions:

- A. Answer his question as best you can, but remind him that you're only a junior officer.
- B. Remind him that you're a junior officer and you have no opinion on the matter.
- C. Humbly decline the question, and refer the leader to one of your senior officers.
- D. Answer his question, but only talk about things that are not concrete and show no side or real opinion.
- E. Answer the question thoroughly, despite the fact that you may not have a lot of knowledge about the subject at hand.

29. What's the most effective action?

30. What's the least effective action?

Situation 16

High-level maintenance is being conducted on multiple aircraft. However, the system that manages the tag outs and maintenance coordination crashes, thus holding up air operations. The system is critical to crew safety and you are in charge of the maintenance.

Here are your potential actions:

- A. Send your team home because maintenance cannot be done with the system down.
- B. Switch to recording and coordinating maintenance through paper, and update the system when it is back online.
- C. Contact the Commanding Officer and inform them of the situation, and contact whoever is in charge of the system and get them working on it ASAP.
- D. Ask your supervisor his or her recommendation.
- E. Try your best to continue maintenance without the system.

31. What's the most effective action?

32. What's the least effective action?

Situation 17

You're scheduled for flight operations that will take up most of the day. However, a senior officer requests that you finish a set of important reports and hand them back to him by the end of the day.

Here are your potential actions:

- A. Inform the officer of the situation, and that you'll find someone who can do it.
- B. Accept the task, but find someone else to do it that is qualified and isn't doing flight ops.
- C. Accept the task, but ask for more time.
- D. Inform the senior officer that you are busy with flight ops.
- E. Accept the task, and do your best to get them back to him regardless of quality.

33. What's the most effective action?

34. What's the least effective action?

Situation 18

While in the briefing room, two senior officers get into a heated argument over the interpretation of a new policy and how it affects that day's operations. You've heard from other officers that these two do not like each other, and that they habitually find things to argue about. Finally, out of desperation, they both turn to you and ask you who is right.

Here are your potential actions:

- A. Take the side of the officer who you like the most and is the better leader.
- B. Refuse to choose a side, and instead inform them of their differences and the pattern of arguments they've habitually displayed.
- C. Agree with the officer you feel is right.
- D. Agree with the officer who has the most effect on your career.
- E. Do not side with either, but instead inform them that such an important decision needs cooperation and clarification.

35. What's the most effective action?

36. What's the least effective action?

Situation 19

You've just reported into your new unit, and the person you're relieving has been extremely helpful. That person has stayed in the unit but is now taking on a new role. However, after a couple of weeks of help, the person keeps doing some of your jobs and even signing some of your reports.

Here are your potential actions:

- A. Ignore the situation, since it is helping you out.
- B. Report the officer to a senior officer.
- C. Meet with the officer and inform them that they cannot sign your reports and that you've got a firm grasp of the job.
- D. Inform your subordinates that they are not allowed to accept orders or signatures from the other officer.
- E. Thank the officer for his continued help and continue with your business.

37. What's the most effective action?

38. What's the least effective action?

Situation 20

The Commanding Officer has assigned a new Lieutenant to be your understudy. They are smart and hard working, but over time you start to dislike their mannerisms and leadership style. They seem to be too boastful and petty against other officers. You've overheard other officers in your unit express their general dislike of the young officer. The Commanding Officer calls you to ask you how the young Lieutenant is doing and whether or not you think they are ready to lead a division.

Here are your potential actions:

- A. Give your honest opinion of the officer, and whether or not you'd promote them.
- B. Tell the Commanding Officer your personal feelings about the officer and what the rest of the unit thinks and allow them to judge what should be done.
- C. Inform the Commanding Officer of the situation and ask what their recommendation would be to help the officer improve.
- D. Tell him that the officer is ready, so that you no longer have to deal with them.
- E. So as to not cause any more problems, tell the Commanding Officer only the good things about the young officer.

39. What's the most effective action?

40. What's the least effective action?

Physical Science

1. Half-life is defined as

- A. The energy needed to dissolve 50% of a substance
- B. Time needed for 50% of a substance to evaporate into the atmosphere
- C. Time needed for 50% of an element to transform into another element
- D. Time taken for an element's radiation to decrease by 50%
- E. The level of kinetic energy generated by applying heat to a substance

2. EMF stands for

- A. Electro magnetic force
- B. Electro motion force
- C. Electromotive force
- D. Electron magnetic field
- E. Electron motion force

3. Which of the following is the most accurate way to characterize an electron?

- A. A negatively charged atom component
- B. A positively charged atom component
- C. A neutrally charged atom component
- D. A measure of electrical energy in amps
- E. A substance especially prone to radioactive decay

4. Which of the following best describes diffusion?

- A. Diffusion occurs only among liquids and not gases
- B. Diffusion occurs only among gases and not liquids
- C. Diffusion occurs equally quickly among gases and liquids
- D. Diffusion occurs faster among liquids than among gases
- E. Diffusion occurs faster among gases than among liquids

5. A substance's freezing point is equal to

- A. 0 C
- B. Its melting point
- C. -1 C
- D. 1 C
- E. Unknowable

6. Which of the following is the most accurate way to characterize a neutron?

- A. A positively charged particle within an atom's nucleus
- B. A neutral particle within an atom's nucleus
- C. A negatively charged particle within an atom's nucleus
- D. A positively charged element within an atom's nucleus
- E. A negatively charged element within an atom's nucleus

7. Absolute zero occurs at

- A. -100 C
- B. -170 C
- C. -273.15 C
- D. -275.20 C
- E. -237.51 C

8. Gamma rays are an example of

- A. Radiation waves
- B. Heat waves
- C. Sound waves
- D. Light waves
- E. X rays

9. Density is defined as

- A. Pressure per unit area
- B. Weight per unit area
- C. Mass per unit area
- D. Mass per unit volume
- E. Weight per unit volume

10. Atomic mass is measured in units of

- A. AMP
- B. AMC
- C. AMT
- D. AMU
- E. AMA

11. Kinetic energy is generated by

- A. An object undergoing a change of state
- B. An object being ignited
- C. An object having an explosive shock applied to it
- D. An object being treated chemically
- E. An object undergoing movement

12. A compound is defined as

- A. A bonding of three or more chemical elements into a chemical substance
- B. A bonding of two or more chemical elements into a chemical substance
- C. A chemical substance consisting of one or more chemical elements
- D. A dissolution of two or more chemical elements into a chemical substance
- E. A reaction among two or more chemical elements resulting in heat energy

13. Metal is able to conduct

- A. Both electricity and heat effectively
- B. Electricity effectively and heat ineffectively
- C. Heat effectively and electricity ineffectively
- D. Heat, electricity and sound equally effectively
- E. Electricity and heat ineffectively

14. A newton is a measure of

- A. Weight
- B. Mass
- C. Pressure
- D. Heat
- E. Force

15. Ions carry

- A. Either a positive or negative charge
- B. A positive charge
- C. A negative charge
- D. No charge
- E. Both positive and negative charges simultaneously

16. Heat of combustion measures

- A. Heat generated by a single burning mole of a substance
- B. The temp. at which a substance ignites
- C. The kinetic energy generated by a burning substance
- D. The no. of photons generated by burning a substance
- E. The temp. in C when burning 10 g of a substance

17. Which of the following is the most accurate way to characterize mass?

- A. Changes based on the gravity present
- B. Changes depending on the height of an object
- C. Does not change unless outside of Earth's atmosphere
- D. Does not change
- E. Either changes or remains static depending on the substance

18. Fluids can take the form of

- A. Liquids only
- B. Gases and liquids
- C. Gases only
- D. Plasmas only
- E. Noble gases only

19. Condensation is a term for

- A. A change of state from a liquid to a gas
- B. A change of state from a liquid to a solid
- C. A change of state from a gas to a liquid
- D. A change of state from a gas to a solid
- E. A change of state from a solid to a gas

20. A common form of the periodic table consists of

- A. 6 different groups

- B. 8 different groups
- C. 4 different groups
- D. 10 different groups
- E. 5 different groups

Aviation Information

1. The purpose of a tail rotor on a helicopter is to

- A. Counteract lift
- B. Counteract torque
- C. Increase thrust
- D. Increase lift
- E. Decrease thrust

2. If a runway is positioned equal to the number 6 on a normal clock face, it would be given the number

- A. 6
- B. 12
- C. 9
- D. 18
- E. 7

3. The areas of an airport controlled by an air traffic controller are called the

- A. Movement areas
- B. Major areas
- C. Motion areas
- D. Aviation areas
- E. Operational areas

4. For an airplane turn to be classed as shallow, it must occur at

- A. An angle of 30° or less
- B. An angle of 20° or less
- C. An angle of 45° or less
- D. An angle of 10° or less
- E. An angle of 5° or less

5. To recover from a plane stalling, a pilot is required to

- A. Angle the nose of the plane upwards and greatly increase throttle
- B. Angle the nose of the plane downwards and slightly increase throttle
- C. Angle the nose of the plane downwards and greatly increase throttle
- D. Angle the nose of the plane upwards and slightly increase throttle
- E. Angle the nose of the plane straight and level and slightly increase throttle

6. Runway lights colored an unbroken red indicate an aircraft is

- A. Within 3000 ft of the runway
- B. Within 2000 ft of the runway
- C. Within 4000 ft of the runway

- D. Within 100 ft of the runway
 - E. Within 1000 ft of the runway
7. During landing, a plane's nose is angled
- A. Upwards
 - B. Downwards
 - C. Level
 - D. Different positions are possible
 - E. Depends on the type of plane
8. Which of the following are not one of the four main flight maneuvers?
- A. Straight and level flight
 - B. Climbing
 - C. Swooping
 - D. Descending
 - E. Turning
9. In night conditions, a VASI system is effective up to a distance of
- A. 10 miles
 - B. 30 miles
 - C. 40 miles
 - D. 20 miles
 - E. 35 miles
10. A helicopter's directional control system allows the pilot to
- A. Adjust the pitch of the main rotor
 - B. Decrease levels of thrust
 - C. Hover without using any other controls
 - D. Adjust the pitch of the tail rotor
 - E. None of the above
11. During a climb, an airplane pilot is required to
- A. Generate extra thrust to counter increased torque
 - B. Generate extra torque to counter increased lift
 - C. Generate extra lift to counter increased torque
 - D. Generate extra thrust to counter increased drag
 - E. Generate extra torque to counter increased drag
12. Which of the following is the most accurate way that characterizes the variance among a wing's leading edge and trailing edge?
- A. The leading edge is fatter and more rounded than the trailing edge.
 - B. The leading edge is thinner and more rounded than the trailing edge.
 - C. The leading edge is of equal thickness but more rounded than the trailing edge.
 - D. The leading edge is thinner and less rounded than the trailing edge.
 - E. The leading edge is fatter and less rounded than the trailing edge.
13. During the daytime, the VASI system is effective up to a distance of

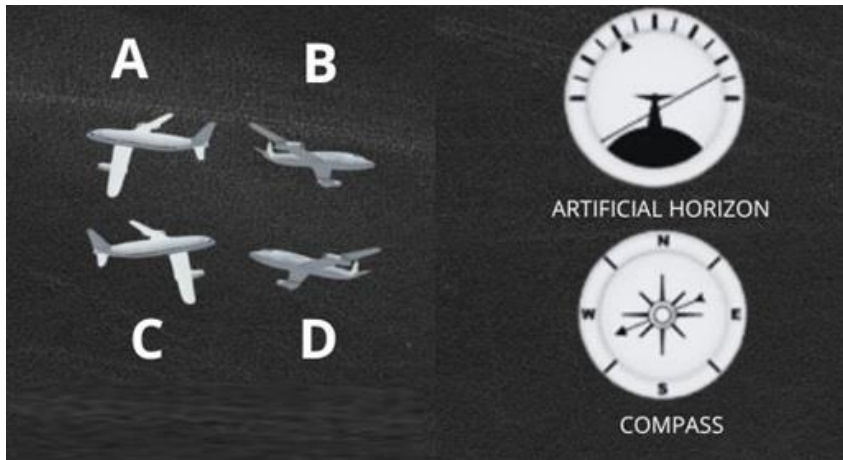
- A. 20 miles
 - B. 5 miles
 - C. 10 miles
 - D. 15 miles
 - E. 25 miles
14. When a pilot angles the nose of a plane downwards, the wings generate
- A. Higher levels of thrust
 - B. Lower levels of thrust
 - C. Lower levels of lift
 - D. Higher levels of lift
 - E. No change in lift or thrust
15. Which of the following pairs are considered viable powerplants for airplanes?
- A. Rudders and propellers
 - B. Engines and rudders
 - C. Engines and throttles
 - D. Propellers and throttles
 - E. Engines and propellers
16. Translational lift occurs for a helicopter when it is
- A. In forward flight
 - B. Hovering
 - C. Descending
 - D. Spinning
 - E. Taking off
17. An increase in density in the air a plane flies through results in
- A. An increase in drag and a decrease in lift
 - B. A decrease in drag and an increase in lift
 - C. An increase in both drag and lift
 - D. A decrease in both drag and lift
 - E. A non-linear impact on drag and lift
18. An airplane travelling in the same direction as the wind experiences
- A. Higher levels of drag
 - B. Lower levels of lift and higher levels of drag
 - C. Higher levels of lift and lower levels of drag
 - D. Lower levels of lift and drag
 - E. Higher levels of lift and drag
19. A helicopter's collective control is used to
- A. Alter the angle of a helicopter's main blades
 - B. Increase the level of thrust generated
 - C. Alter the tail rotor
 - D. Tilt the main rotor
 - E. None of the above

20. A plane's yaw motion is primarily controlled by the

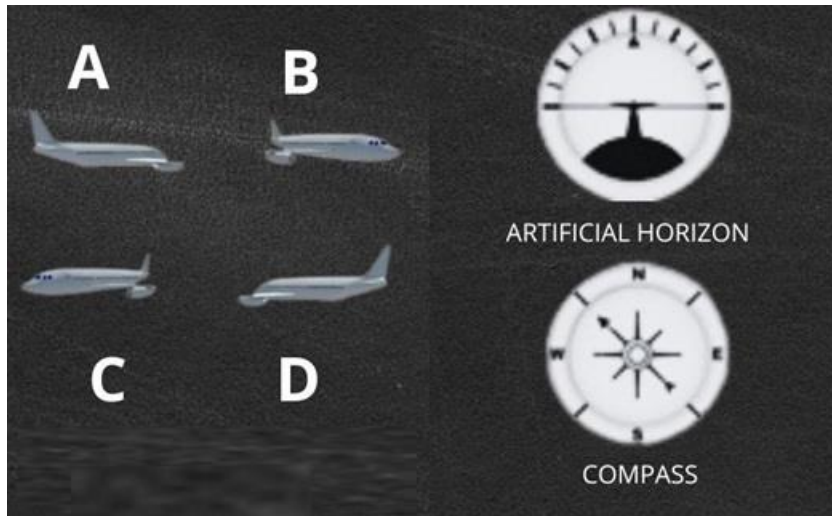
- A. Joystick
- B. Elevators
- C. Ailerons
- D. Cyclic
- E. Rudder

Instrument Comprehension

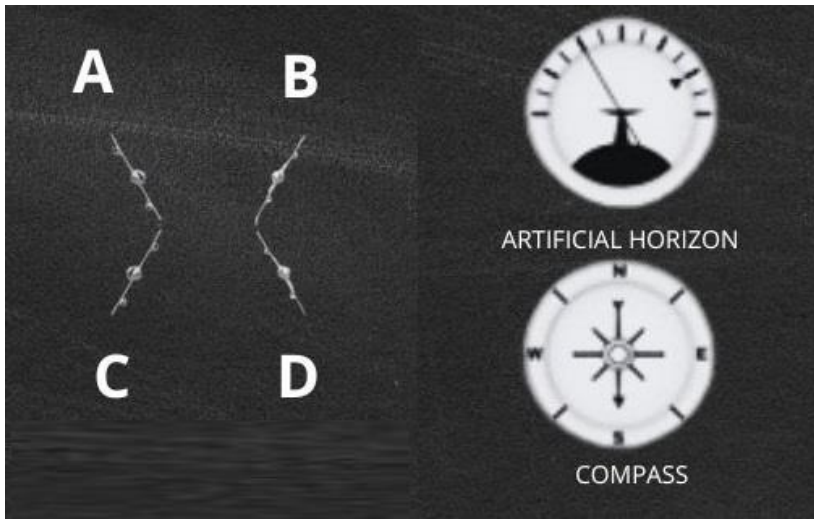
1. Which one of the possible answers best describes the direction in which the plane is flying?



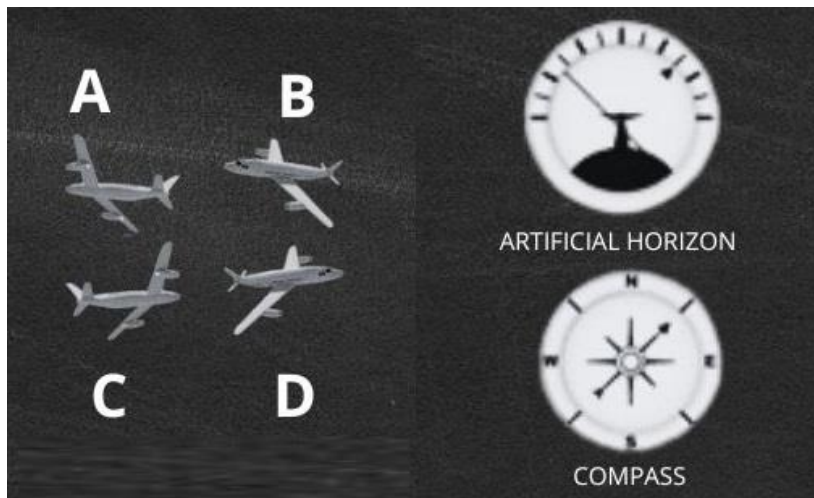
2. Which one of the possible answers best describes the direction in which the plane is flying?



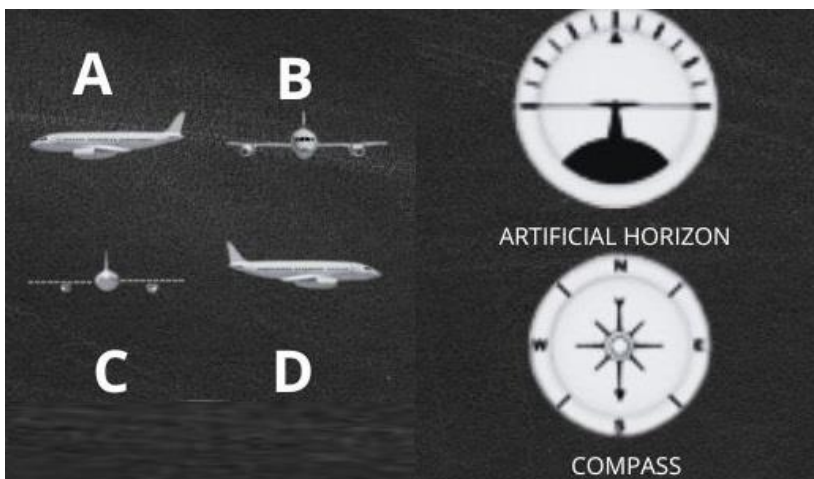
3. Which one of the possible answers best describes the direction in which the plane is flying?



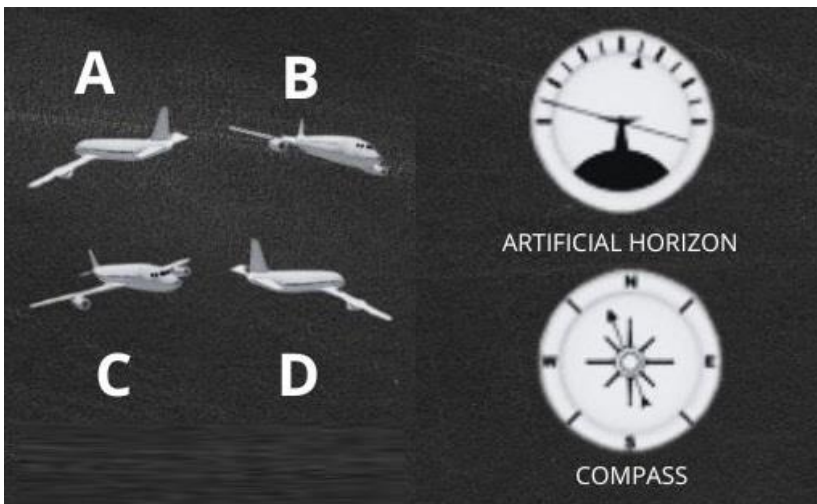
4. Which one of the possible answers best describes the direction in which the plane is flying?



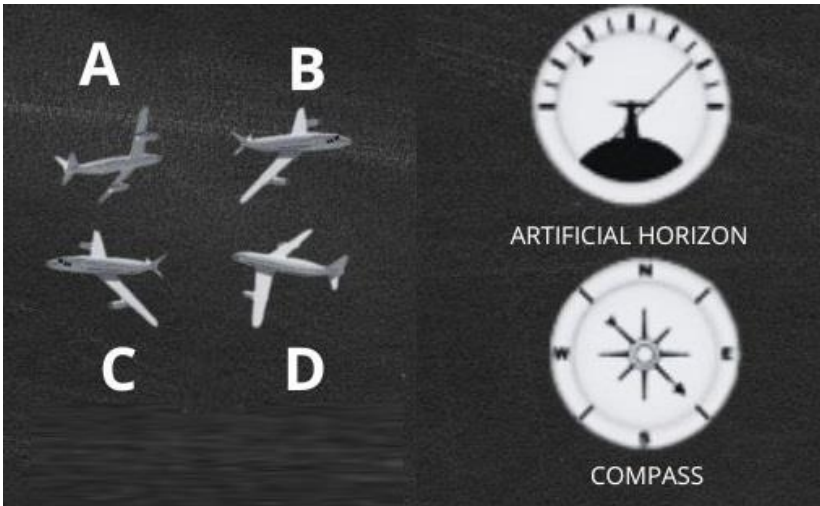
5. Which one of the possible answers best describes the direction in which the plane is flying?



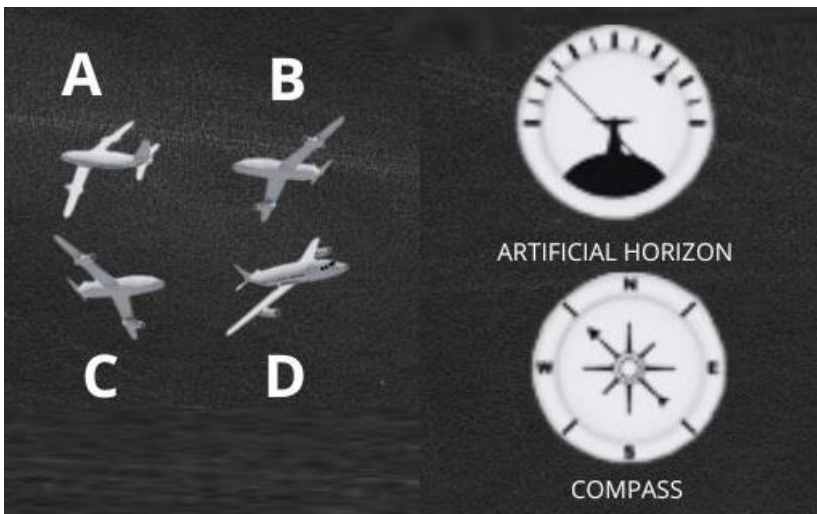
6. Which one of the possible answers best describes the direction in which the plane is flying?



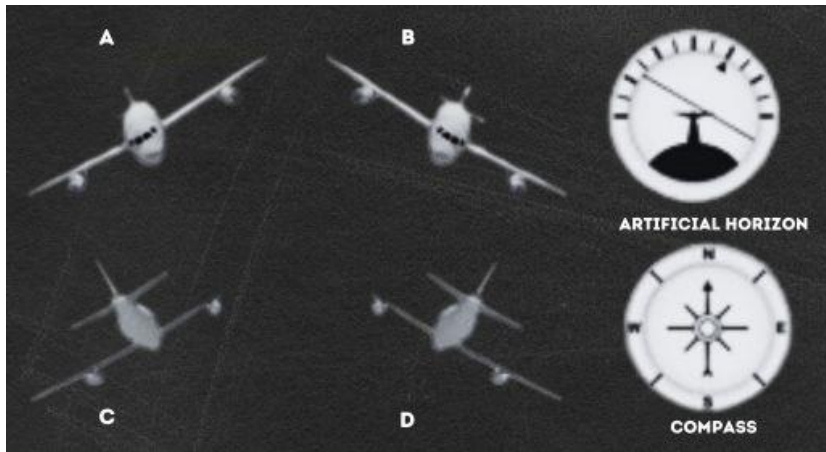
7. Which one of the possible answers best describes the direction in which the plane is flying?



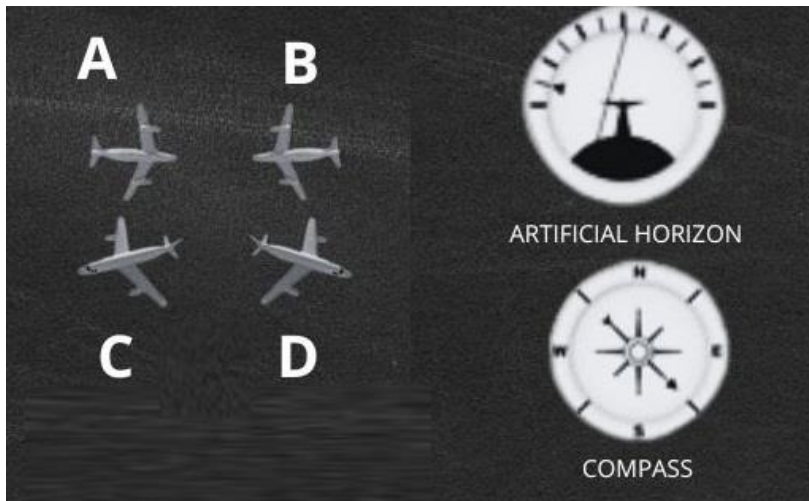
8. Which one of the possible answers best describes the direction in which the plane is flying?



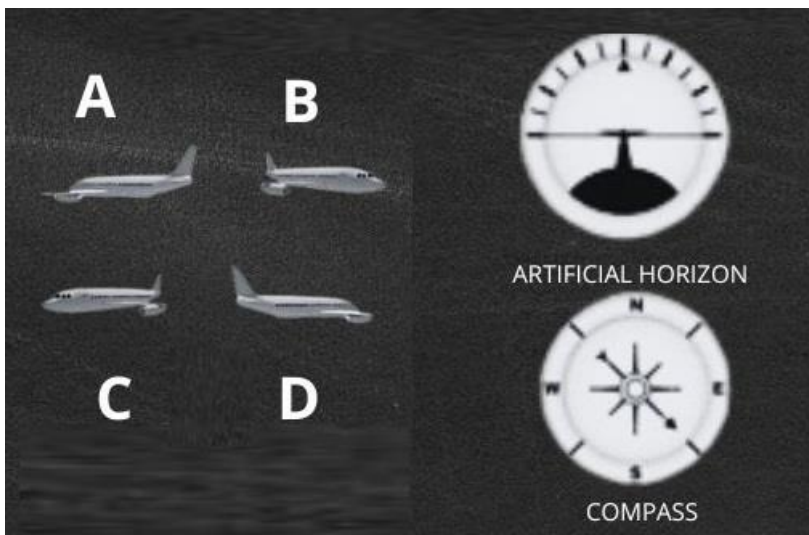
9. Which one of the possible answers best describes the direction in which the plane is flying?



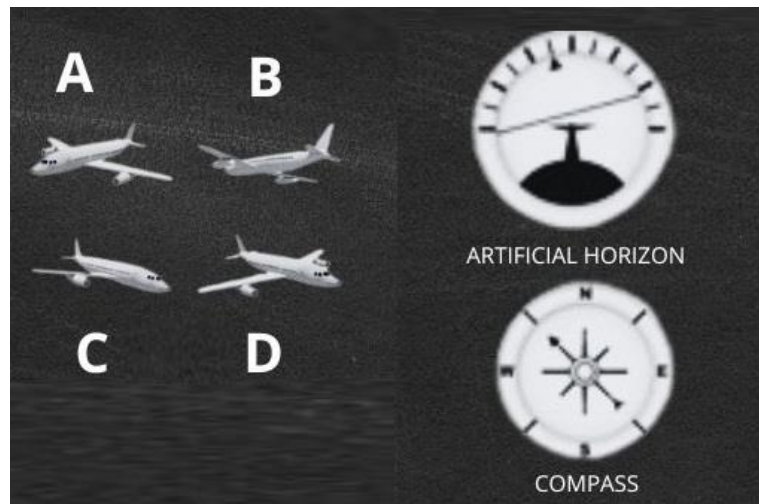
10. Which one of the possible answers best describes the direction in which the plane is flying?



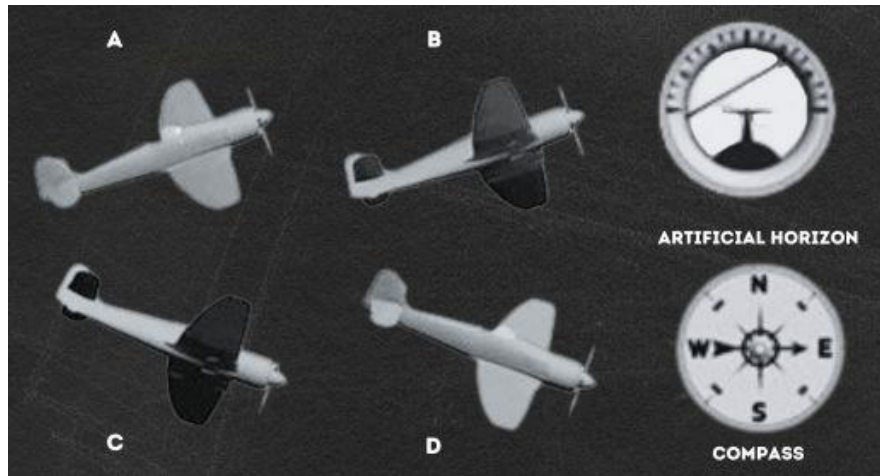
11. Which one of the possible answers best describes the direction in which the plane is flying?



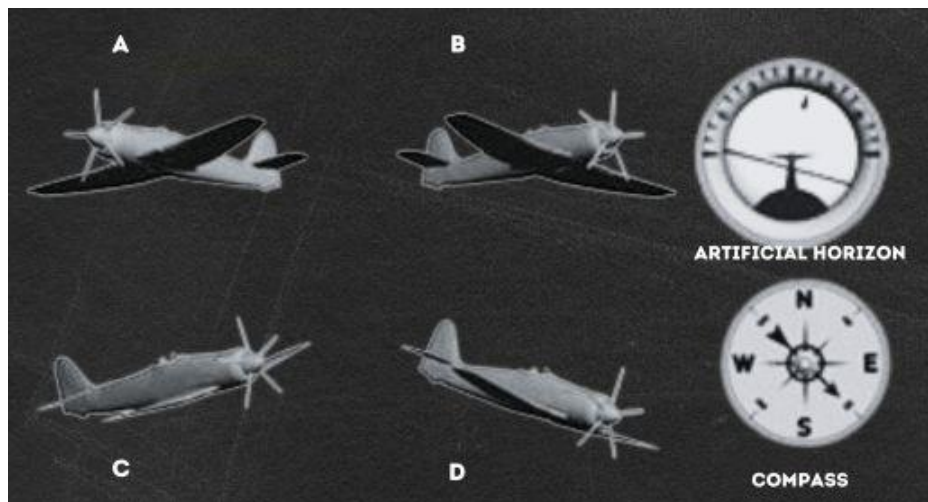
12. Which one of the possible answers best describes the direction in which the plane is flying?



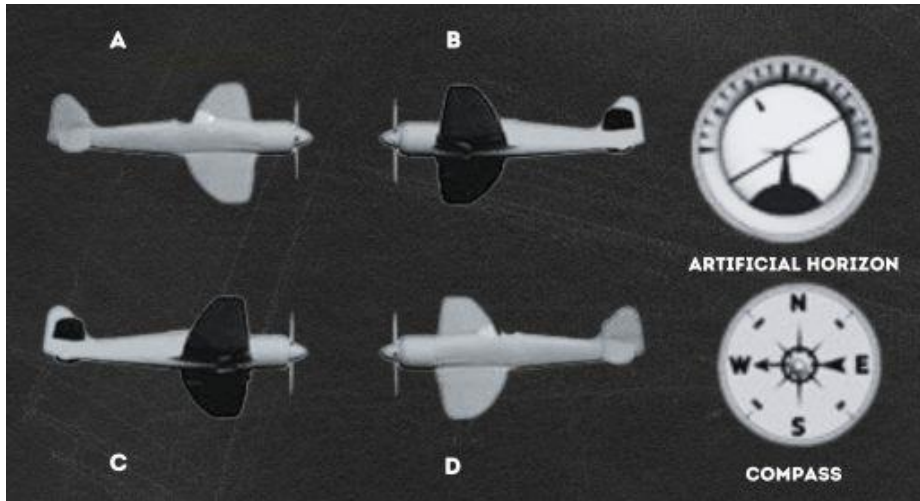
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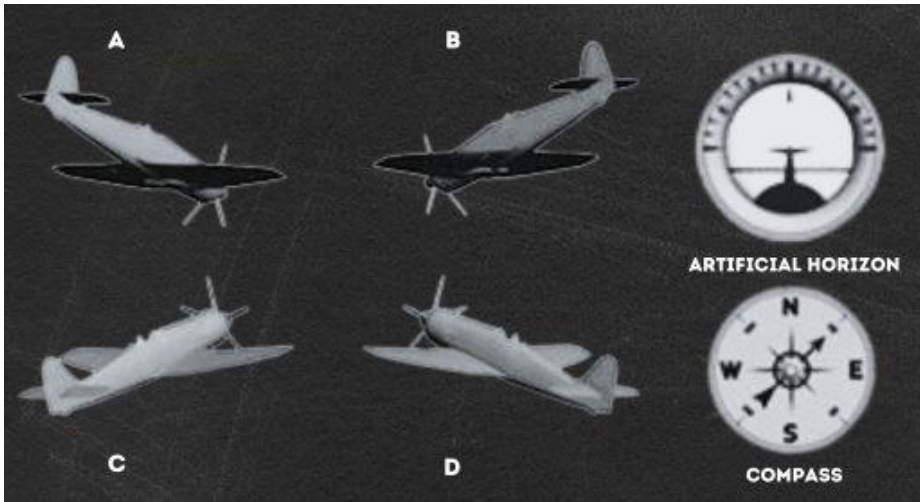
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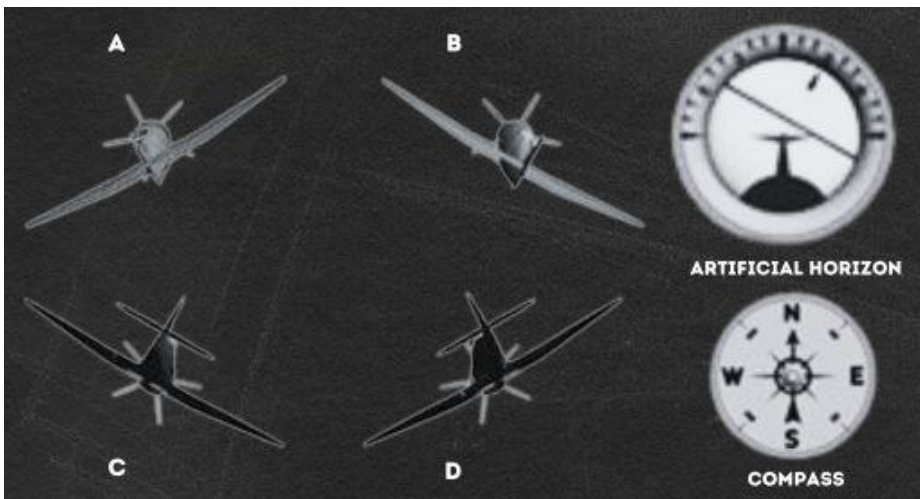
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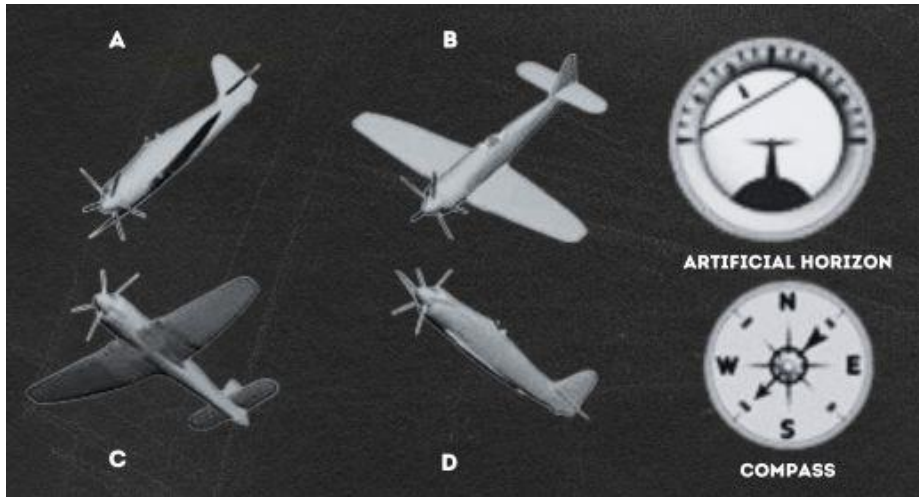
16. Which one of the possible answers best describes the direction in which the plane is flying?



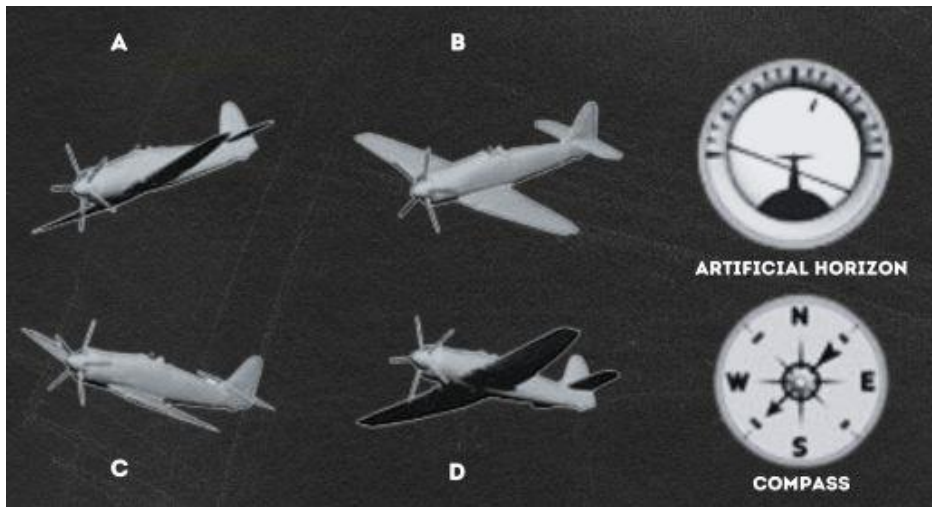
17. Which one of the possible answers best describes the direction in which the plane is flying?



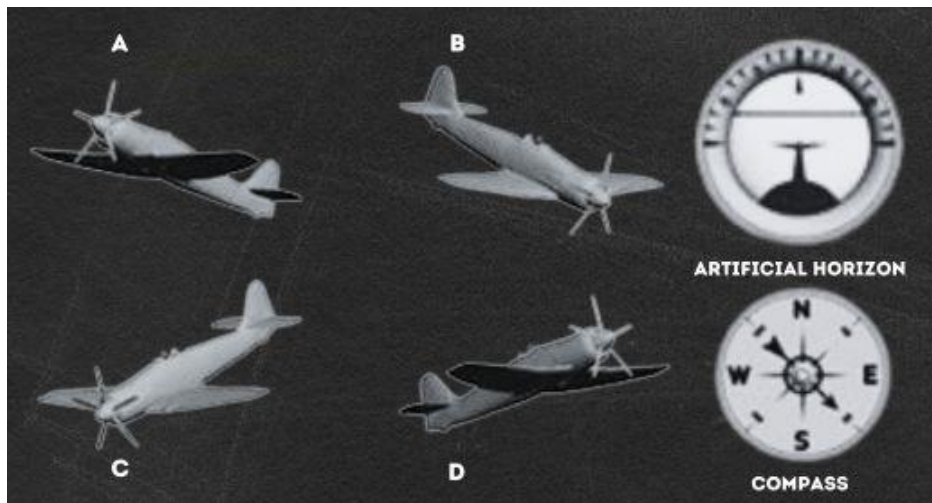
18. Which one of the possible answers best describes the direction in which the plane is flying?



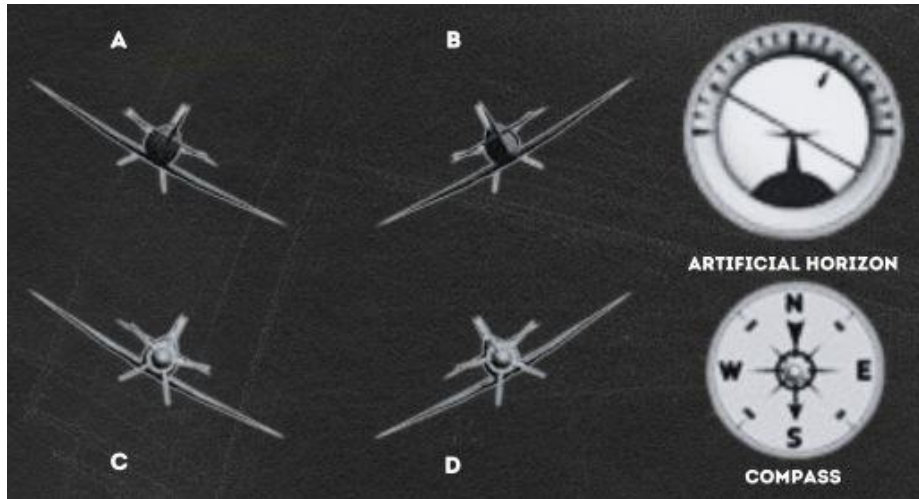
19. Which one of the possible answers best describes the direction in which the plane is flying?



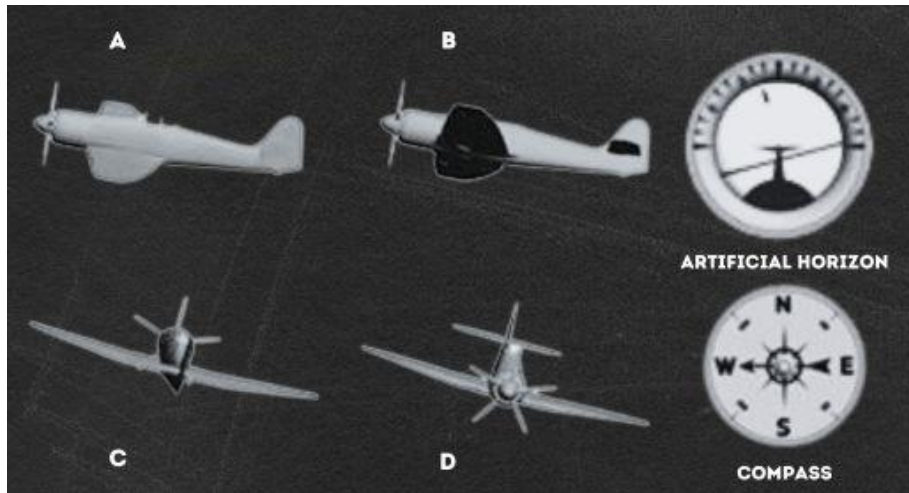
20. Which one of the possible answers best describes the direction in which the plane is flying?



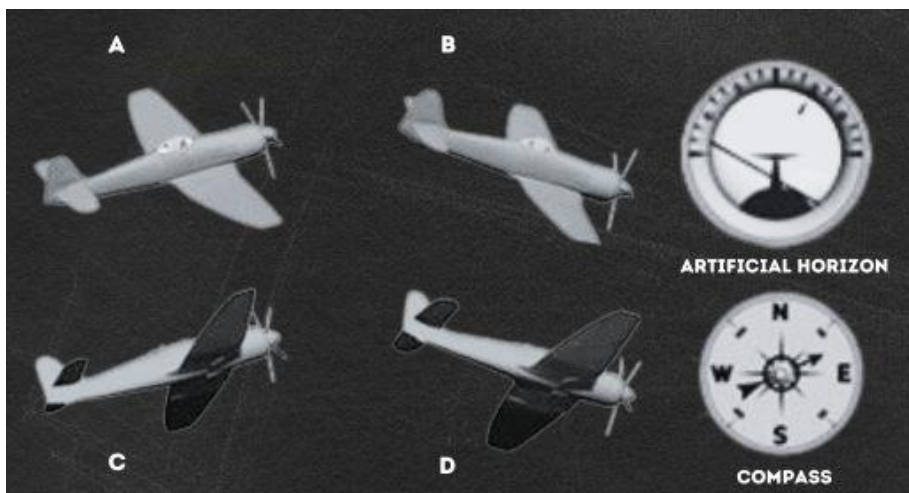
21. Which one of the possible answers best describes the direction in which the plane is flying?



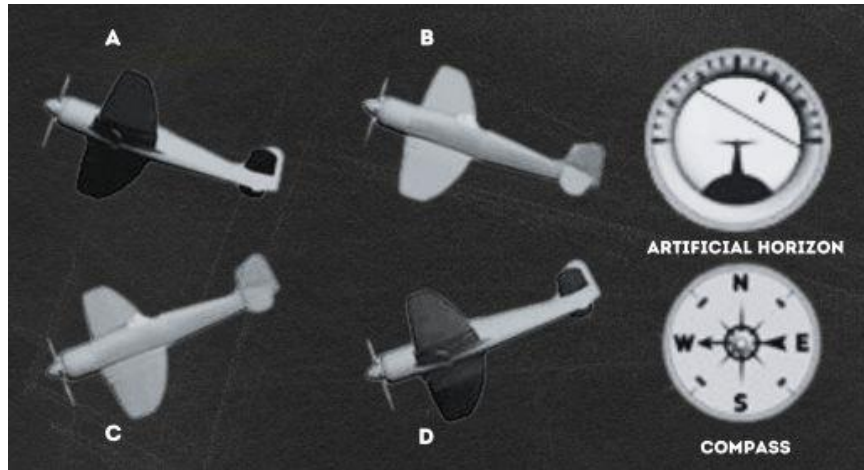
22. Which one of the possible answers best describes the direction in which the plane is flying?



23. Which one of the possible answers best describes the direction in which the plane is flying?



24. Which one of the possible answers best describes the direction in which the plane is flying?



25. Which one of the possible answers best describes the direction in which the plane is flying?

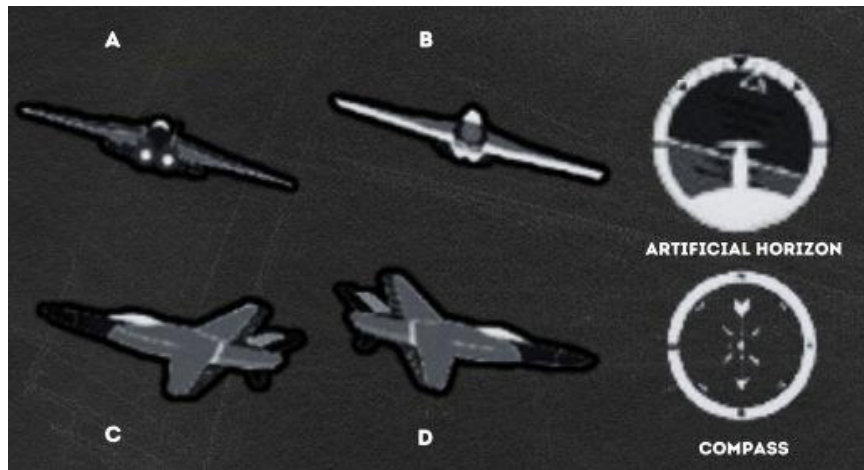


Table Reading
Table 1

	A	B	C	D	E	F	G
1	51	25	35	69	45	29	55
2	52	87	69	76	30	45	40
3	47	63	75	48	55	45	16
4	66	35	81	63	39	69	19
5	20	95	71	70	53	74	94
6	43	28	43	24	14	86	83
7	21	42	57	59	26	89	18

1. (A,4)

- A. 20
- B. 66
- C. 47
- D. 35
- E. 63

2. (F, 6)

- A. 89
- B. 74
- C. 83
- D. 86
- E. 14

3. (B, 5)

- A. 95
- B. 35
- C. 28
- D. 42
- E. 69

4. (G, 2)

- A. 16
- B. 55
- C. 29
- D. 45
- E. 40

5. (A, 3)

- A. 66
- B. 52
- C. 20
- D. 47
- E. 68

Table 2

	A	B	C	D	E	F	G
1	41	40	58	39	69	81	83
2	83	59	88	80	31	60	84
3	88	89	21	86	68	67	92
4	79	90	38	67	82	90	52
5	33	23	37	32	85	74	91
6	40	93	90	27	45	79	10
7	74	66	72	31	92	96	68

6. (E, 2)

- A. 82
- B. 31
- C. 68
- D. 80
- E. 60

7. (B, 4)

- A. 66
- B. 90
- C. 23
- D. 79
- E. 74

8. (F, 7)

- A. 68
- B. 92
- C. 47
- D. 96
- E. 10

9. (A, 5)

- A. 23
- B. 90
- C. 33
- D. 47
- E. 21

10. (E, 3)

- A. 82
- B. 31
- C. 68
- D. 64
- E. 66

Table 3

	A	B	C	D	E	F	G
1	56	46	41	63	80	72	70
2	44	58	48	61	89	51	27
3	68	10	69	80	19	72	74
4	22	20	35	94	18	32	62
5	93	37	70	28	86	25	88
6	93	47	63	85	20	22	29
7	70	27	11	70	50	31	22

11. (A, 6)

- A. 93
- B. 47
- C. 27
- D. 22
- E. 70

12. (C, 5)

- A. 70
- B. 43
- C. 80
- D. 24
- E. 62

13. (G, 6)

- A. 22
- B. 31
- C. 74
- D. 29
- E. 62

14. (B, 2)

- A. 24
- B. 58
- C. 86
- D. 54
- E. 32

15. (D, 4)

- A. 42
- B. 22
- C. 28
- D. 52
- E. 94

Table 4

	A	B	C	D	E	F	G
1	60	65	36	98	80	72	49
2	10	74	68	26	49	71	84
3	61	99	87	80	23	46	90
4	96	23	65	56	97	60	16
5	40	33	78	14	21	36	55
6	28	64	75	44	81	16	53
7	56	86	97	55	53	87	89

16. (G, 4)

- A. 90
- B. 16
- C. 46
- D. 36
- E. 16

17. (E, 5)

- A. 81
- B. 97
- C. 14
- D. 21
- E. 55

18. (F, 1)

- A. 72
- B. 14
- C. 28
- D. 16
- E. 55

19. (E, 7)

- A. 14
- B. 78
- C. 53
- D. 87
- E. 56

20. (B, 7)

- A. 54
- B. 66
- C. 97

- D. 88
- E. 86

Table 5

	A	B	C	D	E	F	G
1	42	77	43	89	45	28	97
2	31	56	28	56	19	95	16
3	60	65	38	47	47	97	75
4	98	28	20	50	61	13	22
5	36	13	53	98	94	53	70
6	83	84	20	15	71	97	35
7	49	13	64	90	21	66	65

21. (D, 4)

- A. 20
- B. 50
- C. 94
- D. 53
- E. 15

22. (B, 3)

- A. 65
- B. 20
- C. 50
- D. 71
- E. 38

23. (G, 4)

- A. 70
- B. 53
- C. 22
- D. 13
- E. 97

24. (A, 7)

- A. 49
- B. 83
- C. 13
- D. 84
- E. 28

25. (C, 4)

- A. 38
- B. 42
- C. 20
- D. 22
- E. 28

Table 6

	A	B	C	D	E	F	G
1	36	20	12	70	51	59	41
2	59	65	88	60	66	47	17
3	80	71	60	25	39	66	55
4	19	96	91	26	53	49	54
5	23	55	78	15	56	48	66
6	93	30	29	62	57	24	25
7	56	43	97	33	34	97	77

26. (F, 2)

- A. 41
- B. 59
- C. 17
- D. 47
- E. 66

27. (C, 3)

- A. 20
- B. 71
- C. 25
- D. 15
- E. 60

28. (A, 6)

- A. 56
- B. 93
- C. 43
- D. 80
- E. 78

29. (G, 7)

- A. 77
- B. 24
- C. 97

- D. 55
 - E. 42
30. (B, 2)

- A. 71
- B. 65
- C. 88
- D. 80
- E. 63

Table 7

	A	B	C	D	E	F	G
1	45	58	94	50	52	60	89
2	80	96	39	80	77	87	40
3	67	69	97	26	46	15	86
4	77	13	61	39	31	16	51
5	97	46	96	77	14	70	90
6	54	64	52	70	89	12	73
7	28	73	90	92	39	30	31

31. (D, 7)

- A. 73
- B. 70
- C. 92
- D. 39
- E. 89

32. (B, 5)

- A. 46
- B. 13
- C. 64
- D. 54
- E. 12

33. (B, 1)

- A. 58
- B. 80
- C. 96
- D. 45
- E. 55

34. (E, 2)

- A. 52
- B. 77
- C. 46
- D. 15
- E. 31

35. (A, 6)

- A. 44
- B. 48
- C. 52
- D. 54
- E. 58

Table 8

	A	B	C	D	E	F	G
1	60	64	76	73	63	51	76
2	42	96	89	61	45	78	74
3	47	80	54	19	88	20	68
4	20	32	58	66	57	48	61
5	67	60	39	73	16	21	86
6	16	18	25	38	64	45	92
7	24	34	29	42	87	55	76

36. (B, 6)

- A. 16
- B. 18
- C. 34
- D. 38
- E. 45

37. (B, 1)

- A. 60
- B. 42
- C. 89
- D. 73
- E. 64

38. (G, 7)

- A. 76

- B. 92
- C. 55
- D. 87
- E. 29

39. (F, 6)

- A. 21
- B. 86
- C. 45
- D. 92
- E. 54

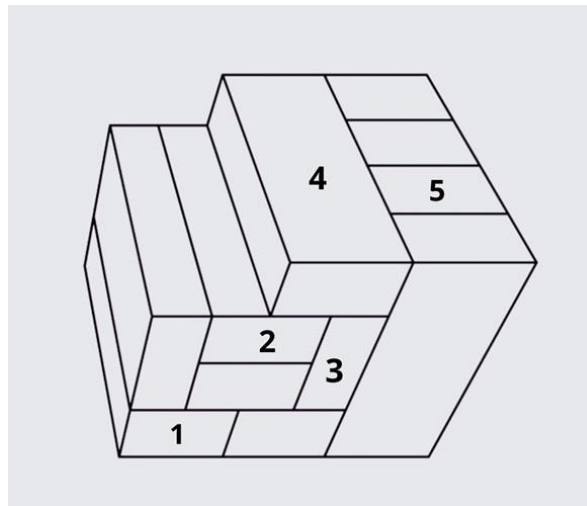
40. (C, 4)

- A. 54
- B. 39
- C. 58
- D. 24
- E. 76

Block Counting

For questions 1-30, determine how many blocks the given block is touching.

Use the figure below for questions 1-5.



1. Block 1

- A. 1
- B. 2
- C. 3
- D. 4
- E. 5

2. Block 2

A. 4

B. 5

C. 6

D. 7

E. 8

3. Block 3

A. 5

B. 6

C. 7

D. 8

E. 9

4. Block 4

A. 4

B. 5

C. 6

D. 7

E. 8

5. Block 5

A. 2

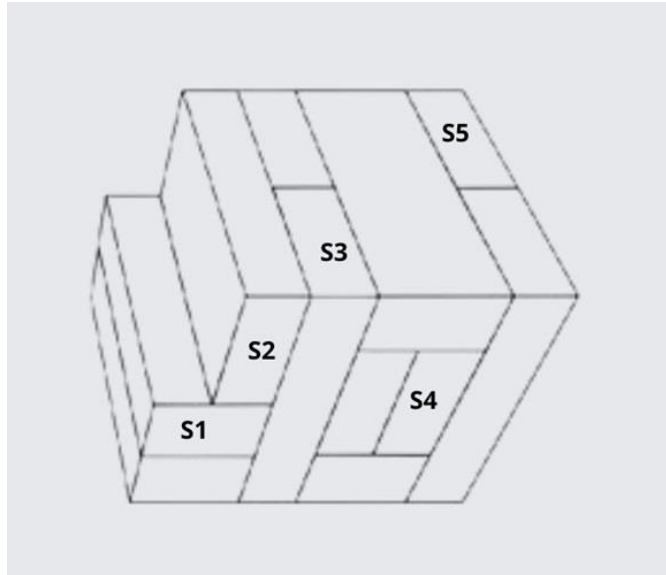
B. 3

C. 4

D. 5

E. 6

Use the figure below for questions 6-10.



6. Block S1

- A. 1
- B. 2
- C. 3
- D. 4
- E. 5

7. Block S2

- A. 2
- B. 3
- C. 4
- D. 5
- E. 6

8. Block S3

- A. 5
- B. 6
- C. 7
- D. 8
- E. 9

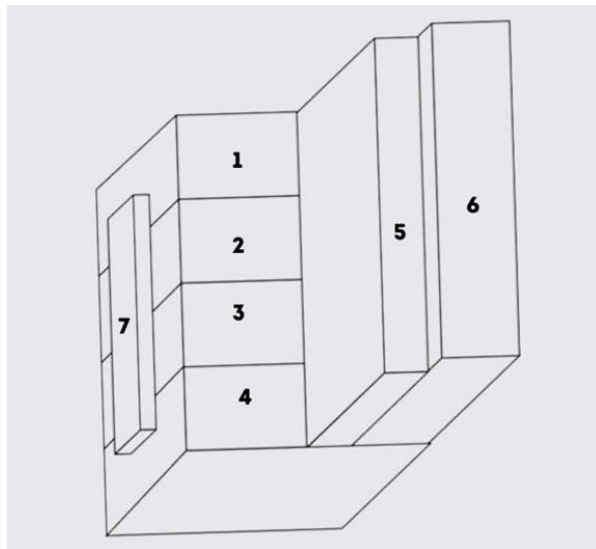
9. Block S4

- A. 4
- B. 5
- C. 6
- D. 7
- E. 8

10. Block S5

- A. 3
- B. 4
- C. 5
- D. 6
- E. 7

Use the figure below for questions 11-17.



11. Block 1

- A. 1
- B. 2
- C. 3
- D. 4
- E. 5

12. Block 2

A. 4

B. 5

C. 6

D. 7

E. 8

13. Block 3

A. 5

B. 6

C. 7

D. 2

E. 1

14. Block 4

A. 4

B. 5

C. 6

D. 7

E. 2

15. Block 5

A. 2

B. 3

C. 4

D. 5

E. 6

16. Block 16

A. 3

B. 4

C. 5

D. 6

E. 7

17. Block 17

A. 1

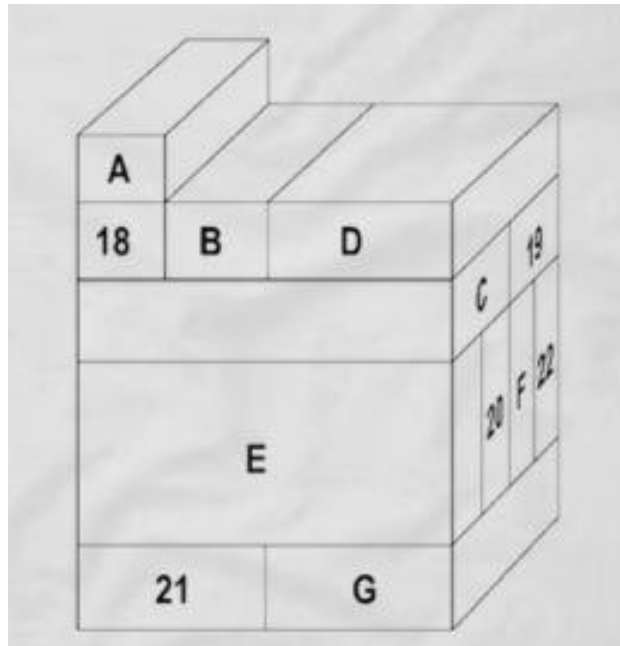
B. 2

C. 3

D. 4

E. 5

Use the figure below for questions 18-22.



18. Block 18

A. 1

B. 2

C. 3

D. 4

E. 5

19. Block 19

A. 2

B. 3

C. 4

D. 5

E. 6

20. Block 20

A. 1

B. 2

C. 3

D. 4

E. 5

21. Block 21

A. 5

B. 6

C. 7

D. 8

E. 9

22. Block 22

A. 4

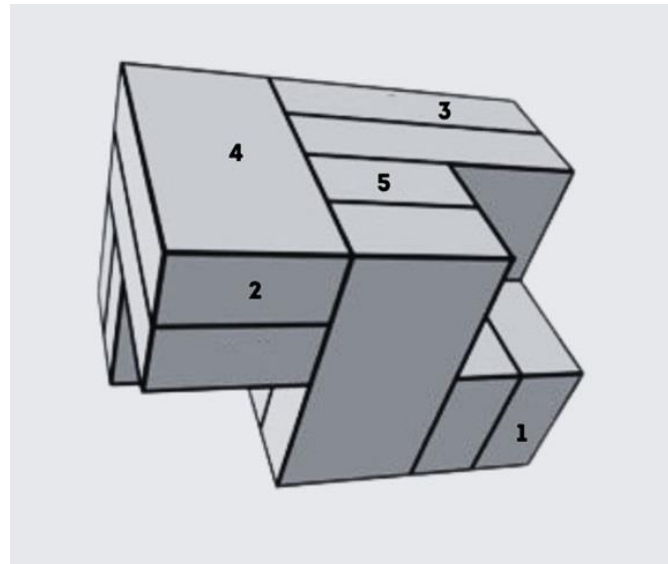
B. 5

C. 6

D. 7

E. 8

Use the figure below for questions 23-26.



23. Block 1

- A. 1
- B. 2
- C. 3
- D. 4
- E. 5

24. Block 2

- A. 5
- B. 6
- C. 7
- D. 8
- E. 9

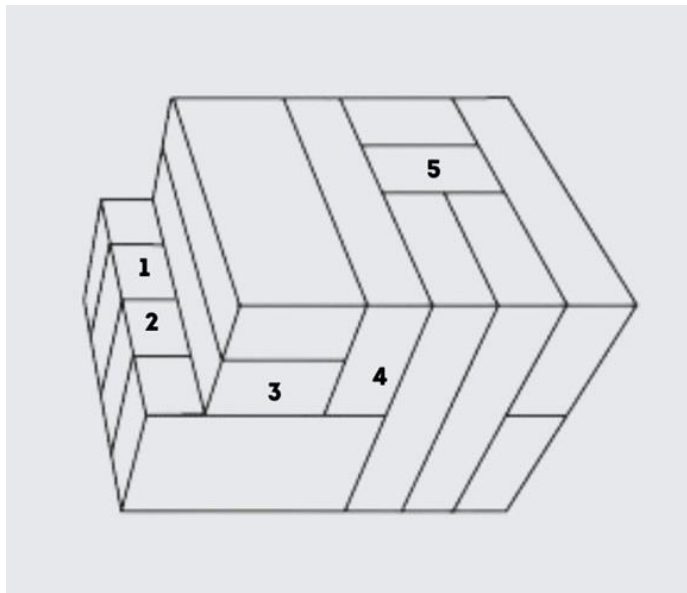
25. Block 3

- A. 4
- B. 5
- C. 6
- D. 7
- E. 8

26. Block 4

- A. 2
- B. 3
- C. 4
- D. 5
- E. 6

Use the figure below for questions 27-30.



27. Block 1

- A. 1
- B. 2
- C. 3
- D. 4
- E. 5

28. Block 2

- A. 4
- B. 5
- C. 6
- D. 7
- E. 8

29. Block 3

- A. 2
- B. 3
- C. 4
- D. 5
- E. 6

30. Block 4

- A. 6
- B. 7
- C. 8
- D. 9
- E. 10

Practice 1 - Answer Keys

Verbal Analogies

1. B. Combat. Influence and persuade are synonyms, as are fight and combat.
D. Tureen. The relationship here is among item and holding. Wine is held in a goblet, and a tureen holds soup.
A. Economize. Danger and safety have opposite meanings, as do waste and economize.
C. Destitute. Loyal and faithful have synonymous meanings as do poor and destitute.
D. Gerrymander. Gerrymander is a political term that means to divide whereas the act of delaying in politics is to filibuster.
E. Milky Way. Michigan is a part (state) of the whole of the USA (country), and Mars is a part (planet) of the whole of the Milky Way (galaxy).
D. Empty. Weak and feeble are close to each other in meaning, as are vacant and empty.
D. Football team. A wing is a part of a plane, and a wide receiver is part of a football team.
B. Love. Distraught is a stronger form of upset, and love is a stronger form of like.
A. Heat. Glue is used to stick, and fire is used to heat.

- C. Vital. Acceptable and satisfactory are synonyms, as are vital and essential.
- B. Zoo. A typical location for a pupil is a school, and a typical location for a lion is a zoo.
- B. Enemy. Blunt and sharp have opposite meanings, as to enemy and ally.
- C. Obstruct. Help and assist have synonymous meanings, as do block and obstruct.
- A. Cake. Letters are smaller parts of the larger alphabet, just as slices are smaller parts of the larger cake.
- E. Bakery. Cars are produced in factories, and doughnuts are produced in bakeries.
- D. Novel. Enthralling is a synonym of captivating, and new is a synonym of novel.
- B. Senate. A school is made up of classrooms, and the Senate is made up of Senators.
- C. Ecstatic. Miserable is a stronger form of sad, and ecstatic is a stronger form of happy.
- A. Expand. Cowardice and bravery have opposite meanings, as do contract and expand.
- E. Punch. A brain is used to think, and a fist is used to punch.
- D. Immense. Taxing has a similar meaning as difficult, and immense has a similar meaning as gigantic.
- B. Hurricane. Destroy is stronger than damage, and a hurricane is stronger than a breeze.
- E. Forest. A meal is made up of courses, just as a forest is made up of trees.
- C. Introvert. Freedom and captivity are opposites, as are extroverts and introverts.

Arithmetic Reasoning

1. D. 16 miles. The initial run is 5 miles. The second run is double this length with an extra mile on top. 2×5 miles is 10 miles + 1 extra mile = 11 miles. The 11 mile run is added to the initial 5 mile run to give 16 total miles.
- C. 98 usable footballs. Start with 148 initial footballs – 28 lost or damaged = 120 footballs. 120 footballs + 14 purchased footballs = 134 footballs. 134 footballs – 36 lost or damaged = 98 usable footballs.
- A. 4 hrs. Initially, 12 hrs are spent wrestling. 1 extra hour shooting requires 2 fewer hrs wrestling, so 4 extra hrs shooting requires 8 fewer hrs wrestling. $12 - 8 = 4$ remaining hrs of wrestling.

- B. \$315. $5 \text{ working hrs} \times 6 \text{ working days} = 30 \text{ working hrs}$. $30 \times \$10.50 = \315 .
- C. \$220. Total bill = \$682 – first friend’s contribution of \$242 = \$440 remaining. $\$440/2 = \220 each.
- A. \$25. Original wage of \$20 – 25% reduction (\$5) = \$15. $\$15 + 50\%$ of the original wage (\$10) = \$25.
- E. \$1,080. Half of total potential workforce = 12 workers. 12 people working for 6 hrs = 72 hrs worked. Hourly rate of \$15 \times 72 hrs worked = \$1,080.
- E. 1800 miles. 3 days of 10 hrs driving = 30 hrs driving. 30 hrs driving at a speed of 60 miles per hour = 1800 miles driven.
- E. 270 ft. Second plot is half the length of the first which = 90 ft. $180 \text{ ft} + 90 \text{ ft} = 270 \text{ ft}$ total length.
- A. \$748. Initial deposit of \$140 + second deposit of \$540 = \$680 balance at the end of the month. 10% of \$680 = \$68 interest earned. $\$680 + \$68 = \$748$ balance at the start of the second month.
- B. \$3,938. Cost of both pieces of art = \$780 + \$2,800 = \$3,580. 10% tax on \$3,580 = \$358 tax. Cost + Tax = $\$3,580 + \$358 = \$3,938$ total.
- C. 1:5. The dollar amounts do not impact the question. 600 of the second table is 500% of the first table’s sales, so the ratio is 1:5.
- B. 224 toys. 8 toys per day \times 7 days per week operational = 56 toys per week. 4 weeks production = $4 \times 56 = 224$ toys.
- B. 242 lb. Initial weight is 220 lb. 5% of the initial amount = 11 lb gained. In the second week, a further 5% of the additional amount is gained, = 22 lb total gains. Initial amount of 220 lb + total gains of 22lb = 242 lb finishing weight.
- D. 108 people. 3 full vehicle As = $3 \times 24 \text{ people} = 72 \text{ people}$. 2 full vehicle Bs = 36 people. $72 \text{ people} + 36 \text{ people} = 108 \text{ people}$.
- D. 572 supporters. 440 initial supporters. 10% increase in first month of campaign = 44 extra supporters. Second month increase of 20% of the initial total = 88 additional supporters. $132 \text{ total additional supporters over 2 months} + 440 \text{ initial supporters} = 572 \text{ final supporters}$.
- B. 2:1. 160 initial copies of comic 1. Reduction of half of comic 1 = 80 remaining copies of comic 1. This leaves a final amount of 80 comic 1s and 40 comic 2s, giving a ratio of 2:1.

A. 24. If 18 scoops of component A are needed, we know there must be 4 scoops of component C for every 3 of A. 18 scoops of A therefore requires 24 scoops of C.

E. 40. Original score achieved is 30 points. A third fewer points in the second test is 10 fewer points, as $10 = \frac{1}{3}$ of 30. Second test score therefore = 20 points. The third test is double the score of the second, so $2 \times 20 = 40$ points for the final test.

C. 100. First floor capacity is 75 workers. Second floor has a third of the capacity, and $\frac{1}{3}$ of 75 is 25. Therefore, total capacity = first floor capacity + second floor capacity = $75 + 25 = 100$.

A. \$25,000. Initial salary of \$20,000. Pay rise of 10% after 1 year = pay rise of \$2,000. This means pay at start of second year is \$22,000. The flat rise of an additional \$3,000 after the second year = $\$22,000 + \$3,000 = \$25,000$ after two years.

B. 50. If one roll of turf covers 40 square ft, and the facility has 3 rolls of turf, this is 3×40 square ft = 120 square ft. If the total area is 240 square ft, then 120 square ft = 50% of total area.

D. 42. At a rate of 3 points for every \$12 spent, the first brother spends \$72 and earns 18 points ($72/12 = 6$, 6×3 points = 18 points). The second brother spends \$96 and earns 24 points ($96/12 = 8$, 8×3 points = 24 points). 24 points + 18 points = 42 points in total.

D. 10. 60 initial students + 25% extra = 15 extra = 75. 5 last minute students = 80 total students. 80 students / 8 instructors = 10 students per instructor.

A. 70. 120 initial pigs – 30 sold = 90 pigs. 10 pigs bought = 100 pigs. One quarter of the original total of pigs sold = 30 pigs sold. $100 - 30 = 70$ remaining pigs.

Word Knowledge

1. E. Substitute. Replace and substitute can be used in the same way, for example ‘they decided to replace an ingredient’ and ‘they decided to substitute an ingredient’.

D. Arduous. Arduous is close in meaning to difficult, for example ‘the workout was difficult’ and ‘the workout was arduous’.

E. Bent. Has a similar meaning to crooked, for example ‘the old man’s back was crooked’ and ‘the old man’s back was bent’.

A. Fake. Can be used in the same way as counterfeit, for example, ‘he had a fake driving license’ and ‘he had a counterfeit driving license’.

D. Have. Similar to possess, for example ‘He had to have the rare item’ and ‘He had to possess the rare item’.

C. Stared. Close in meaning to gawked, for example ‘They stared for too long’ and ‘They gawked for too long’.

B. Excellent. Similar to outstanding as it has a strong positive meaning. For example, ‘the results were excellent’ and ‘the results were outstanding’.

B. Pause. Close meaning to halt in the context. For example, ‘they had to halt the talk while he stopped coughing’ and ‘they had to pause the talk while he stopped coughing’.

D. Sob. A close meaning to cry, for example ‘A faint sob could be heard’ and ‘A faint cry could be heard’.

A. Remember. Close in meaning to retain in this context. For example, ‘He knew he needed to retain the information’ and ‘He knew he needed to remember the information’.

C. Adore. Cherish and adore are both strong, positive, emotional verbs. For example ‘He adored her like no other’ and ‘He cherished her like no other’.

C. Label. Similar meaning to the verb ‘mark’ in this context. For example, ‘It took a long time to mark all of the discounted items’ and ‘It took a long time to label all of the discounted items’.

B. Lazy. Close in meaning to slothful. For example, ‘Everyone had always seen him as slothful’ and ‘Everyone had always seen him as lazy’.

B. Status. Similar to place in this context. For example, ‘They had a low status in society’ and ‘They had a low place in society’.

A. Silent. Close in meaning to mute. For example, ‘They knew they had to stay silent or risk being caught’ and ‘They knew they had to stay mute or risk being caught’.

C. Story. Similar to narrative. For example, ‘I was gripped by the fascinating story’ and ‘I was gripped by the fascinating narrative’.

D. Select. A verb similar to choose. For example, ‘He found it hard to select from the available options’ and ‘He found it hard to choose from the available options’.

B. Run. Close in meaning to dash. For example, ‘He had to dash or risk being caught in the rain’ and ‘He had to run or risk being caught in the rain’.

A. Deem. Similar to judge. For example, 'He judged the man to be trustworthy' and 'He deemed the man to be trustworthy'.

E. Mighty. Close in meaning to powerful. For example, 'The Romans were mighty fighters' and 'The Romans were powerful fighters'.

E. Inferior. Similar to substandard. For example, 'The materials were of inferior quality' and 'The materials were of substandard quality'.

B. Punctual. Close in meaning to prompt. For example, 'He set his watch early so he was always punctual' and 'He set his watch early so he was always prompt'.

C. Detest. Strong negative emotional verb similar to hate. For example, 'He detested injustice' and 'He hated injustice'.

E. Stammer. Similar to stutter, meaning halted speech in this context. For example, 'The therapist was able to cure his stutter' and 'The therapist was able to cure his stammer'.

A. Contemplate. Close in meaning to reflect. For example, 'He used the time to pray and reflect' and 'He used the time to pray and contemplate'.

Mathematical Knowledge

1. B. $5D + 6B$

Explanation: John produces D burgers each hour for 5 hrs, while Chris produces B burgers each hour for 6 hrs. The total no. of burgers produced by John (5D) and Chris (6B) is the sum of the burgers they produced individually.

2. D. 20

Explanation: If $20 + x$ is 5 more than 20, then $x = 5$. To find $4x$, substitute the value of x into the equation: $4x = 4 * 5 = 20$.

3. B. 24,000

Explanation: The ratio of yes to no votes is 4:1, which means for every 4 yes votes, there is 1 no vote. The total votes cast = $4x + x = 5x$ (where x represents each part of the ratio). So, $5x = 120,000$ (total votes), solving for x gives $x = 24,000$ (the no. of no votes).

4. A. \$72,600

Explanation: The interest is added thrice: 10% after 3 months, 20% after 8 months, and 10% after 11 months. Calculate each interest and add it to the initial balance to find the total amount at the end of the year.

5. C. 60

Explanation: LCM (Least Common Multiple) of 30, 20, and 10 is 60, which is the smallest number that is a multiple of all three given numbers.

6. B. 36

Explanation: When two dice with six sides are rolled, there are six possible results for the first die, and in addition, there are six potential results for the second die. Each of the six possible results adds up to a total of 36.

7. A. -38

Explanation: Substitute -2 into the function: $f(-2) = 4(-2)^3 - 4(-2)^2 + 10 = -38$.

8. C. $x \geq 200$

Explanation: "No less than" implies a greater than or equal to sign in inequalities. So, the cost is no less than 200 Dollars is represented as $x \geq 200$.

9. E. $y(y + 3)$

Explanation: Given $y = 3x$. Substitute $y = 3x$ into $9x + 3x + 1$ to get $9x + 3x + 1 = y(y) + y = y(y + 3)$.

10. E. $27r - 7$

Explanation: Solve the equation step by step: $15r - 10 - (-7r) + 5r + 3 = 15r + 7r + 5r - 10 + 3 = 27r - 7$.

11. D. 9 ft

Explanation: The area of a rectangle = height * width. Given the area as 81 square ft and the height as 9 ft, to find the width: width = Area / height = $81 / 9 = 9$ ft.

12. A. Mean

Explanation: The five-number summary in statistics typically includes minimum, Q1, median, Q3, and maximum. The mean (average) is not part of the five-number summary.

13. D. 4

Explanation: The greatest common factor (GCF) of 64 and 28 is the largest number that divides both 64 and 28 without leaving a remainder, which is 4.

14. C. $7x^2 - 2x$

Explanation: Simplify the expression: $10x^2 + 5x - 3x^2 - 7x = (10x^2 - 3x^2) + (5x - 7x) = 7x^2 - 2x$.

15. C. 1:3

Explanation: The ratio of X to Y can be found by subtracting the no. of people who answered X from the total no. of people and finding the ratio with the number who answered X.

16. E. $x < -3$

Explanation: Solve the inequality: $9 + 3x < 0$ $3x < -9$ $x < -3$.

17. B. 1, -2

Explanation: Solve the system of equations by adding or subtracting the two equations to eliminate one variable: $5x + 6y = -7$ and $5x - 6y = 17$. Adding these equations results in $10x = 10$, giving $x = 1$. Substitute $x = 1$ into one of the equations to solve for y , giving $y = -2$.

18. D. -5, 6

Explanation: Solve the system of equations: $-10x - 7y = 8$ and $10x + 10y = 10$. Eliminate x by adding the two equations, giving $3y = 18$, which results in $y = 6$. Substitute $y = 6$ into one of the equations to solve for x , giving $x = -5$.

19. A. $-11y^3 + 7y^2 + 7y$

Explanation: Perform subtraction of the given polynomial expression: $(-5y^3 + 4y^2 - 3y) - (6y^3 - 3y^2 - 10y) = -5y^3 + 4y^2 - 3y - 6y^3 + 3y^2 + 10y = -11y^3 + 7y^2 + 7y$.

20. C. Q3

Explanation: Q3 represents the third quartile or the upper quartile in statistics.

21. D. PEMDAS

Explanation: PEMDAS stands for Parentheses, Exponents, Multiplication and Division (from left to right), Addition and Subtraction (from left to right), which represents the correct order of operations in mathematics.

22. E. 10

Explanation: The mode is the number that appears most often in the given set. In this set, the number 10 appears most frequently (four times), making it the mode.

23. B. $x \geq 1$

Explanation: Solve the inequality step by step: $4x - 1 \geq 5 - 2x$ $4x + 2x \geq 5 + 1$ $6x \geq 6$ $x \geq 1$.

24. A. 1

Explanation: Solve the equation step by step: $27k - k = 26$ $26k = 26$ $k = 1$.

25. C. 6

Explanation: Solve the equation step by step: $7g - 4g = 18$ $3g = 18$ $g = 6$.

Reading Comprehension

1. B. The passage explores the practical steps and changes in attitude which must occur for the world to experience peace.

D. The author makes it clear that although he is speaking from his personal perspective, and that of his nation, he also is echoing what he feels to be the true feelings of people across the globe who share his ideals.

A. The phrase 'yearning desire for peace' found in the fourth paragraph, as well as the examples given in the penultimate and final paragraphs, show that this is the viewpoint the author holds.

C. The final paragraph speaks of "death and ruin...upon the persons and the homes they hold most dear".

B. The section of the fourth paragraph which reads "without reserve and with the utmost explicitness" is synonymous with speaking freely and clearly.

B. Throughout the passage, the author talks about how international trade impacts the normal lives of American people, and how it would have negative consequences if stopped.

- E. The final paragraph speaks of the “entire machine” and a “violent shock”.
- A. The third paragraph states “a fault which increases in importance with the complexity of the machine”.
- C. The phrase “seemingly trivial” is another way of conveying apparent insignificance.
- D. The phrase “any other great nation” makes it clear that the importing and exporting discussed occurs in nations of a similar significance to the USA.
- A. Throughout the passage, it’s clear that the author feels workers have a choice in how they respond to changing economic conditions, and aspects of this choice are considered throughout.
- B. In the first paragraph, the phrase “the amount he is accustomed to regard as a week’s earnings” shows that past experience of income influences present and future decisions for workers.
- E. The second paragraph contains the assertion that “at a higher price...more units of the commodity are brought to the market, both from new sources and from old sources”.
- C. The initial paragraph states “From England, and from American towns here and there, we hear stories of the wage-earner...”
- C. The first paragraph ends with a question that is intended to strengthen the author’s main argument.
- B. Throughout the text, both the intention behind, and the evolution of, Zeppelin’s airship are explored.
- D. The first paragraph states “Zeppelin conceived and developed his airship for one field of application and that alone”.
- A. The sentence “each was subjected to searching tests” has the meaning of thorough and careful testing.
- E. In relation to the financial difficulties Zeppelin faced, the author states “it was to the benefit of the world at large”.
- C. The first paragraph states “despite the fact that it has been successful in other areas, these accomplishments have been secondary to the core goal, and they have only served to highlight the military worth of the product.”

C. Each and every paragraph talks about the process by which a pupil learns to fly a plane, and the way in which an instructor demonstrates and teaches this skillset.

B. The first paragraph talks about an accident which is “not dangerous” but “very humiliating.

A. The initial paragraph contains the text “sufficient time to impart the lesson, but not sufficiently long to tire out the student”.

D. The penultimate paragraph discusses “a particularly valuable lesson that leads to a rise in the pilot's confidence, and "learns to use his own judgment to make decisions”.

E. At the end of the second paragraph, the author states that “The subject of whether or not civilian pilots should be taught higher maneuvers is one that is up to debate”.

Situation Judgment

1. D

B

D

A

E

C

B

C

B

A

A

C

E

C

D

E
B
E
B
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C
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C
E
A

D

Physical Science

1. D. Time taken for an element's radiation to decrease by 50%. For example, carbon-14 takes 5730 years to decay to half its original amount, so the half-life of carbon-14 is 5730 years. Francium-223 has the shortest half-life of only 22 mins.
- C. EMF stands for electromotive force. This allows a current to flow in an electrical circuit.
- A. A negatively charged atom component. Acts as the main carrier of electricity in solids.
- E. Diffusion occurs faster among gases than among liquids. Diffusion can occur among gases and among liquids, but the rate of diffusion is much higher for gases than liquids.
- B. The freezing point and melting point of a substance are equal. Freezing point is used when describing a decreasing temp. while melting point is used when describing a rising temp.
- B. A neutral particle within an atom's nucleus. Neutrons are without an electric charge.
- C. -273.15 C. The lowest possible temp.
- A. Radiation waves. Gamma rays have the shortest wavelength of the various types of electromagnetic radiation and are used in medicine.
- D. Mass per unit volume. Density is useful for aviators as it explains the ability of different materials to float.
- D. AMU or atomic mass unit.
- E. Kinetic energy occurs when an object undergoes movement.
- B. When two or more chemical elements are bonded together into a substance, this is termed a compound. The proportion of the different elements is fixed.
- A. Metals are effective conductors of both electricity and heat.
- E. Newtons measure force. Newtons are usually abbreviated to the symbol N.
- A. Either a positive or negative charge. Ions can be either positive or negative, with negatively charged ions termed anions and positively charged ions termed cations.
- A. Heat generated by a single burning mole of a substance. Often expressed as J/mol, or energy/mole of fuel.

D. Mass is fixed and does not change, no matter the atmospheric conditions acting on it, unlike weight.

B. Both gases and liquids can exist in fluid form.

C. Condensation occurs when a gas changes to a liquid.

B. One common format of the periodic table is 8 groups.

Aviation Information

1. B. Counteract torque. Without this manipulation, a helicopter would not be able to fly in the intended direction and instead would spin in an uncontrolled way.

D. 18. The naming is based on the $^{\circ}$ of a circle, so the halfway point would receive the name 18.

A. Movement areas.

B. An angle of 20° or less. Turns occurring at 20° or less are termed shallow.

C. Angle the nose of the plane downwards and greatly increase throttle. This action is needed to attempt to restart the plane and avoid a crash or forced landing.

E. Within 1000 ft of the runway.

A. Upwards. The landing is achieved by manipulating the levels of thrust to allow the plane to touch the ground in the smoothest way possible.

C. Swooping

D. 20 miles

D. Adjust the pitch of the tail rotor.

D. Generate extra thrust to counter increased drag. If a pilot does not do this, the plane will not be able to climb due to the increased drag acting on it.

A. The leading edge is fatter and more rounded than the trailing edge.

B. 5 miles

C. Lower levels of lift. This maneuver is used during descents accordingly.

E. Engines and propellers. Engines are the normal source of power on modern planes, but propellers are viable powerplants as well.

A. In forward flight. Translational lift results in greater efficiency of a plane's rotors.

C. An increase in both drag and lift. The atmospheric pressure acting on a plane requires different actions from the pilot depending on circumstance.

D. Lower levels of lift and drag. A plane's journey time can be reduced in such conditions.

A. Alter the angle of a helicopter's main blades.

E. Rudder.

Instrument Comprehension

1. D

2. D

3. A

4. C

5. B

6. A

7. B

8. A

9. C

10. D

11. B

12. B

D

B

B

C

D

A

C

B

C

B

C

C

B

Table Reading
1. B

D

A

E

D

B

B

D

C

C

A

A

D

B

E

B

D
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C
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B
A
C
A
C
D
E
B
A
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C
A
A
B
D
B
E
A
C
C

Block Counting

1. C: Block 1 touches 3 blocks: block below Block 1 and 2 blocks on the right side.

A: Block 2 touches 4 blocks: block above Block 2, block on the left of Block 2, Block 3, and Block 4.

D: Block 3 touches 8 blocks: 4 blocks on the bottom (comprising Block 5), Block 4, Block 2, block on the left of Block 2, and block below Block 1.

C: Block 4 touches 6 blocks: 4 blocks below (comprising Block 5), Block 2, and Block 3.

D: Block 5 touches 5 blocks: block on the left of Block 5, block on the right of Block 5, Block 4, Block 3, and block below Block 1.

D: Block S1 touches 4 blocks: block on the left of Block S1, Block S2, Block S3, and block on the right of Block S3.

B: Block S2 touches 3 blocks: Block S1, Block S3, and block on the right of Block S3.

C: Block S3 touches 7 blocks: block on the left of Block S1, Block S1, Block S2, block on the right of Block S3, block above Block S4, block on the left of Block S4, and block on the right of Block S4.

B: Block S4 touches 5 blocks: Block S5, block on the left of Block S5, block on the left of Block S4, block on right of Block S4, and block above Block S4.

B: Block S5 touches 4 blocks: block on the left of Block S5, block above Block S5, Block S4, and block on the left of Block S4.

D: Block 1 touches 4 blocks: Blocks 2, 5, 6, and 7.

B: Block 2 touches 5 blocks: Blocks 1, 3, 5, 6, and 7.

A: Block 3 touches 5 blocks: Blocks 2, 4, 5, 6, and 7.

A: Block 4 touches 4 blocks: Blocks 3, 5, 6, and 7.

D: Block 5 touches 5 blocks: Blocks 1, 2, 3, 4, and 6.

E: Block 6 touches 5 blocks: Blocks 1, 2, 3, 4, and 5.

B: Block 7 touches 4 blocks: Blocks 1, 2, 3, and 4.

D: Block 18 touches 4 blocks: Blocks A, B, C, and 19.

E: Block 19 touches 6 blocks: Blocks D, C, B, 18, 22, and F.

E: Block 20 touches 5 blocks: Blocks C, E,F, G, and 21.

A: Block 21 touches 5 blocks: Blocks E, G, 20, F, and 22.

A: Block 22 touches 4 blocks: Blocks 19, F, G, and 21.

C: Block 1 touches 3 blocks: block above Block 1, Block 3, and block to the left of Block 3.

C: Block 2 touches 7 blocks: block to the left of Block 5, Block 5, block to the left of Block 3, Block 3, 2 blocks to the back and left of Block 2, and Block 4.

C: Block 3 touches 6 blocks: The block immediately to its left, Block 1, block above Block 1, Block 2, Block 4, and the block father to back and the left of Block 2.

D: Block 4 touches 5 blocks: block to the left of Block 5, Block 5, block to the left of Block 3, Block 3, and Block 2.

E: Block 1 touches 5 blocks: Block 2, block to the right of Block 1, Block 3, Block 4, and Block 5.

B: Block 2 touches 5 blocks: block to the left of Block 2, Block 1, Block 3, Block 4, and the block below Block 4 and to the left of Block 5.

E: Block 3 touches 6 blocks: block to the left of Block 2, Block 2, Block 1, block to the right of Block 1, block to the right of Block 3, and Block 4.

D: Block 4 touches 9 blocks: block to the left of Block 2, Block 2, Block 1, block to the right of Block 1, Block 3, block to the right of Block 3, block below Block 4 and to the left of Block 5, Block 5, and block to the right of Block 5.

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