

COMPLETE

# ASVAB

## STUDY GUIDE

Armed Services Vocational  
Aptitude Battery

2026 Edition • Comprehensive Prep Resource

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## Section 1: What is the ASVAB?

The **Armed Services Vocational Aptitude Battery (ASVAB)** is a standardized aptitude test used by the United States Military to assess the qualifications of potential enlistees. It measures developed abilities across academic and vocational domains to predict future academic and occupational success in the military.

### Key Facts at a Glance

Attribute	Detail
Full Name	Armed Services Vocational Aptitude Battery
Administered by	U.S. Military Entrance Processing Command (MEPCOM)
Total Questions	145 questions (CAT-ASVAB) / 225 questions (P&P;)
Total Time	Approximately 3 hours (CAT) / 3 hours 49 min (P&P;)
Formats	Computer Adaptive Test (CAT) or Paper & Pencil (P&P;)
Validity Period	2 years from date of testing
Minimum Age	17 years old (with parental consent)
Cost	Free — administered by the military

### Who Takes the ASVAB?

The ASVAB is taken by over one million military applicants and students each year. There are three primary versions of the test:

- **MET-Site ASVAB** — Given at Military Entrance Test sites for enlisted applicants.
- **Student ASVAB** — Administered in high schools and post-secondary schools via the ASVAB Career Exploration Program (CEP).
- **CAT-ASVAB** — Computer-adaptive version taken at a MEPS (Military Entrance Processing Station).

#### PRO TIP

The CAT-ASVAB adapts to your answers in real time — harder questions earn more points. Rushing and guessing hurts your score more than taking time to answer carefully.

## Section 2: AFQT Score Breakdown

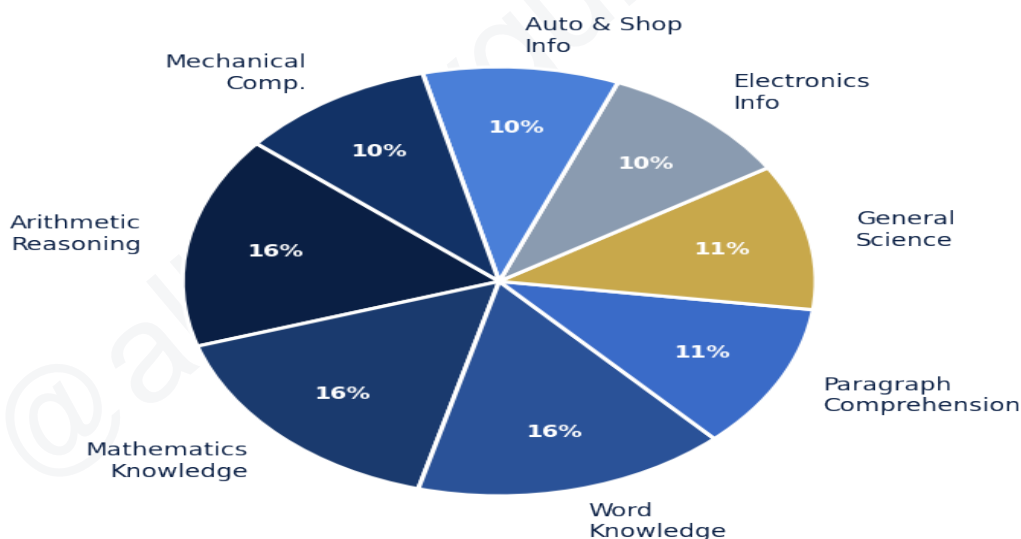
The **Armed Forces Qualifying Test (AFQT)** score is derived from four ASVAB subtests and determines your basic eligibility for military service. The AFQT is a percentile score ranging from 1 to 99, indicating how you performed relative to a nationally representative sample of test-takers aged 18–23.

### AFQT Component Subtests

Subtest	Abbrev.	Questions	Time (min)	AFQT Weight
Arithmetic Reasoning	AR	30	54	High
Mathematics Knowledge	MK	25	24	High
Word Knowledge	WK	35	11	High
Paragraph Comprehension	PC	15	13	High

### AFQT Score Composition

**AFQT Score Weight Distribution**



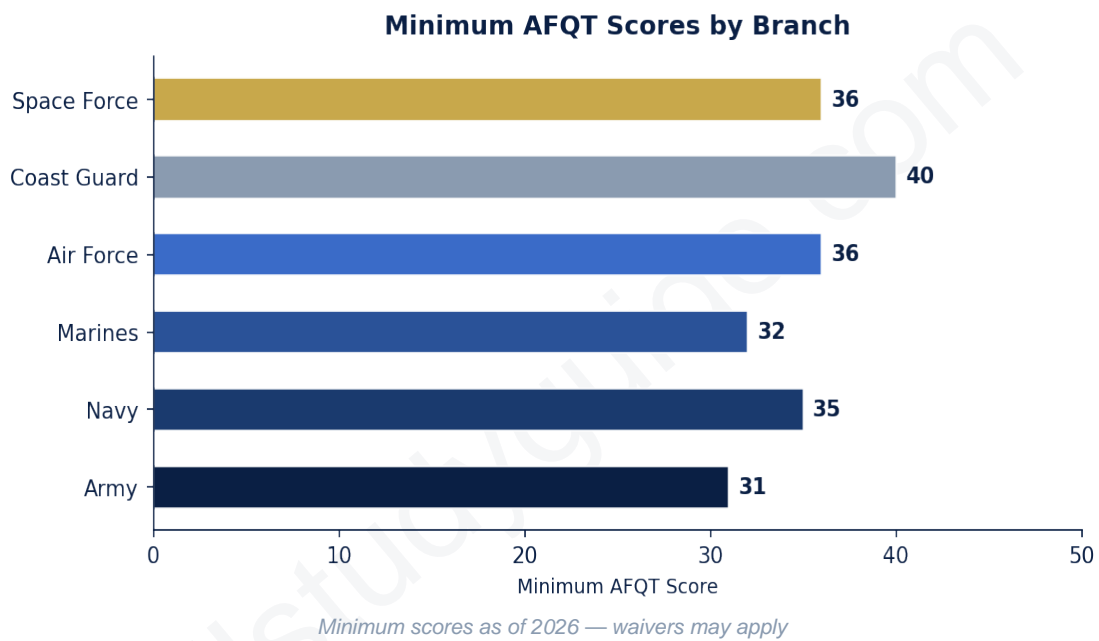
*Relative weighting of each subtest in the AFQT calculation*

### AFQT Score Categories

Score Range	Category	Eligibility
93 – 99	I	Eligible for all branches — highest tier
65 – 92	II	Eligible for all branches with full MOS options
50 – 64	IIIA	Eligible for all branches

31 – 49	IIIB	Eligible — limited MOS/ratings available
21 – 30	IVA	Eligible for Army only (with waiver)
16 – 20	IVB	Marginally eligible — waiver often required
10 – 15	IVC	Not typically eligible
1 – 9	V	Not eligible for enlistment

**Minimum AFQT by Branch**



## Section 3: The 9 ASVAB Subtests

The ASVAB consists of nine subtests. Your composite scores across these subtests determine your **Military Occupational Specialty (MOS)**, **rating**, or **Air Force Specialty Code (AFSC)** — essentially, what job you can qualify for.

Subtest	Abbr v.	Questions	Time	Content Area
General Science	GS	25	11 min	Biology, Chemistry, Physics, Earth Science
Arithmetic Reasoning	AR	30	54 min	Word problems, Algebra, Ratios
Word Knowledge	WK	35	11 min	Vocabulary, Synonyms, Context
Paragraph Comprehension	PC	15	13 min	Reading passages, Inferences
Mathematics Knowledge	MK	25	24 min	Algebra, Geometry, Number theory
Electronics Information	EI	20	9 min	Circuits, Current, Resistance, Tools
Auto & Shop Information	AS	25	11 min	Engine, Transmission, Hand tools
Mechanical Comprehension	MC	25	19 min	Pulleys, Levers, Pressure, Hydraulics
Assembling Objects	AO	25	15 min	Spatial reasoning, Diagrams

### NOTE

Assembling Objects (AO) is not part of your AFQT score but contributes to technical composite scores. Don't neglect it if you're targeting an engineering or mechanical role.

## Section 4: Mathematics — AR & MK

### 4.1 Arithmetic Reasoning (AR)

Arithmetic Reasoning tests your ability to solve word problems using basic mathematical operations. Questions are presented as real-world scenarios requiring logical reasoning.

#### Key Topics

Topic	Example Skills
Percentages & Ratios	Finding 15% of \$240; ratio of boys to girls in a class
Rate, Time & Distance	$d = r \times t$ problems; speed conversions
Simple & Compound Interest	Annual interest calculations; total amount formulas
Sequences & Patterns	Arithmetic progressions; next-term predictions
Probability	Coin flips, card draws, probability of events
Area & Perimeter	Rectangle, triangle, circle calculations
Average / Mean	$\text{Sum} \div \text{count}$ ; weighted averages

### 4.2 Mathematics Knowledge (MK)

Mathematics Knowledge tests your understanding of mathematical concepts and principles typically covered in high school algebra and geometry.

Topic	Key Formulas & Concepts
Linear Equations	$ax + b = c$ ; solving for $x$ ; slope-intercept form $y = mx + b$
Quadratic Equations	$ax^2 + bx + c = 0$ ; factoring; quadratic formula
Exponents & Radicals	$x^a \times x^b = x^{(a+b)}$ ; $\sqrt[3]{(ab)} = \sqrt[3]{a} \times \sqrt[3]{b}$
Inequalities	$2x - 3 > 7$ ; graphing on number lines
Geometry — Angles	Complementary ( $90^\circ$ ), supplementary ( $180^\circ$ ), vertical angles
Triangles	Pythagorean theorem: $a^2 + b^2 = c^2$ ; area = $\frac{1}{2}bh$
Circles	$C = 2\pi r$ ; $A = \pi r^2$ ; chord/arc relationships
Coordinate Geometry	Midpoint, distance, slope between two points

#### STRATEGY

For the CAT-ASVAB, you cannot go back to previous questions. Work confidently and eliminate obviously wrong answers before selecting. For MK, memorize key formulas like the Pythagorean theorem and slope formula before test day.

## Section 5: Verbal — WK & PC

### 5.1 Word Knowledge (WK)

Word Knowledge tests your vocabulary by asking you to select synonyms for underlined words or determine the correct meaning from context. A strong vocabulary is one of the most impactful improvements you can make to your AFQT score.

#### High-Frequency Word Categories

Category	Sample Words to Study
Academic / Formal	Verbose, Apathetic, Benevolent, Eloquent, Pragmatic
Military / Legal	Tribunal, Jurisdiction, Redress, Mandate, Amend
Scientific	Osmosis, Catalyst, Entropy, Hypothesis, Inert
Descriptive	Tenacious, Ambiguous, Meticulous, Profound, Ardent
Action Words	Mitigate, Circumvent, Cultivate, Impede, Advocate

### 5.2 Paragraph Comprehension (PC)

Paragraph Comprehension presents short reading passages followed by questions. You are assessed on your ability to identify the main idea, draw inferences, understand vocabulary in context, and analyze the author's tone or purpose.

Question Type	Strategy
Main Idea	Read the first and last sentences of each paragraph first
Detail / Fact	Scan back to the passage — answer is explicitly stated
Inference	Ask: "What must be true based on what the passage says?"
Vocabulary in Context	Substitute each answer choice; pick the best fit
Author's Purpose	Identify tone: neutral/informative vs. persuasive/critical

#### STRATEGY

For PC, always read the questions BEFORE the passage. This focuses your reading and saves you from re-reading. For WK, learn roots, prefixes, and suffixes — they unlock the meaning of hundreds of unfamiliar words.

## Section 6: Science & Technical Subtests

### 6.1 General Science (GS)

Domain	Key Topics
Life Science	Cell biology, genetics, ecosystems, photosynthesis, respiration
Earth Science	Rock cycle, plate tectonics, weather, atmosphere, tides
Physical Science	Newton's laws, energy types, wave properties, magnetism
Chemistry	Periodic table, atomic structure, compounds, reactions, pH scale
Astronomy	Solar system, planets, stars, light-years, lunar cycles

### 6.2 Electronics Information (EI)

Topic	Core Concepts
Circuits	Series vs. parallel; Ohm's Law: $V = IR$ ; resistance calculation
Electrical Power	$P = IV$ ; watt, volt, ampere definitions
Components	Resistors, capacitors, diodes, transistors, inductors
Tools & Safety	Multimeters, oscilloscopes, grounding, circuit breakers

### 6.3 Auto & Shop Information (AS)

Area	Topics Covered
Engine	Combustion cycle, pistons, camshaft, crankshaft, timing belt
Drivetrain	Transmission, differential, axles, CV joints
Electrical System	Battery, alternator, starter motor, fuses
Shop Tools	Wrenches, sockets, torque, drills, saws — proper usage
Maintenance	Fluid types, brake system, tire rotation, oil viscosity

### 6.4 Mechanical Comprehension (MC)

Concept	Formula / Principle
Levers	Mechanical advantage = Load Arm $\div$ Effort Arm; 3 classes of levers
Pulleys	MA = number of supporting ropes; fixed vs. movable pulleys
Gears	Gear ratio; direction of spin; smaller gear spins faster

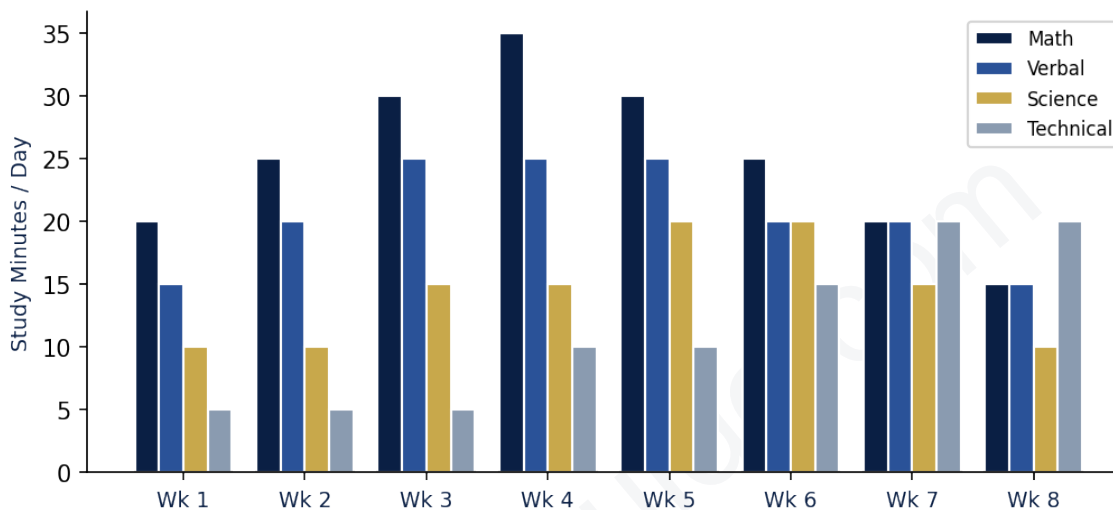
Hydraulics	Pascal's Law: pressure applied = pressure transmitted equally
Inclined Planes	$MA = \text{Length} \div \text{Height}$ ; reduces force needed to lift objects
Springs	Hooke's Law: $F = kx$ ; compression vs. tension springs

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## Section 7: 8-Week Study Plan

A structured, consistent study approach significantly increases your ASVAB score. The plan below is organized by week, with daily focus areas to maximize retention and avoid burnout. Adjust based on your baseline strengths and target MOS.

**8-Week Study Plan — Daily Focus Allocation**



Daily study minute allocation across subject areas over 8 weeks

Week	Focus Area	Daily Goal	Key Activities
1	Diagnostic & Math Foundations	60 min	Take full practice test; identify weak areas; review fractions/decimals
2	Arithmetic Reasoning Deep Dive	70 min	Word problem practice; ratio & proportion drills; speed math
3	Math Knowledge & Algebra	70 min	Equation solving; geometry formulas; coordinate plane review
4	Verbal — Word Knowledge	60 min	Flashcards (20/day); root word lists; vocabulary quizzes
5	Verbal — Paragraph Comprehension	60 min	Timed passage reading; main idea practice; inference questions
6	Science & Technical Subtests	75 min	General Science review; EI circuits; AS engine components
7	Mechanical & Full Practice Tests	80 min	MC levers/pulleys; 2 full timed practice tests; score analysis
8	Review & Test-Day Prep	45 min	Weak-area flashcards; light review; rest and sleep focus

## Section 8: Test-Day Strategy

### Before the Test

- Get at least **8 hours of sleep** the night before — fatigue significantly impairs cognitive performance.
- Eat a **balanced meal** 1–2 hours before testing. Avoid heavy carbohydrates that cause energy crashes.
- Arrive at MEPS or the test center **at least 30 minutes early** with valid photo ID.
- Bring **no electronic devices** — phones, smartwatches, and calculators are prohibited.
- Review a brief **formula cheat sheet** the morning of (not the night before — sleep matters more).

### During the Test — Timing Guide

Subtest	Questions	Time	Avg. Sec/Question
Arithmetic Reasoning	30	54 min	108 sec
Word Knowledge	35	11 min	18 sec
Paragraph Comprehension	15	13 min	52 sec
Mathematics Knowledge	25	24 min	57 sec
General Science	25	11 min	26 sec
Electronics Information	20	9 min	27 sec
Auto & Shop	25	11 min	26 sec
Mechanical Comprehension	25	19 min	45 sec
Assembling Objects	25	15 min	36 sec

### Answer Elimination Strategy

- **Eliminate two wrong answers first** — even if you must guess, 50/50 odds are better than 25%.
- **Watch for extreme words** — answers containing "always," "never," "all," or "none" are often wrong.
- **Trust your instincts** — your first choice is correct more often than a changed answer.
- **For CAT-ASVAB** — you cannot skip or go back. Commit to each answer before moving forward.

#### KEY IN SIGHT

On the CAT-ASVAB, the first 10–15 questions of each subtest set your score range. Investing extra effort in early questions pays off disproportionately compared to later ones.

## Section 9: Practice Questions & Answers

### Arithmetic Reasoning — Sample Questions

### Word Knowledge — Sample Questions

### Mathematics Knowledge — Sample Question

**Q1.** A soldier drives 240 miles in 4 hours. What is his average speed in miles per hour?

- A) 48 mph B) 60 mph C) 72 mph D) 80 mph

**Answer: B) 60 mph**

*Explanation: Distance ÷ Time = 240 ÷ 4 = 60 mph*

**Q2.** A base store sells boots for \$85 after a 15% discount. What was the original price?

- A) \$96.75 B) \$97.75 C) \$100.00 D) \$102.50

**Answer: C) \$100.00**

*Explanation: \$85 = 85% of original → Original =  $\$85 \div 0.85 = \$100$*

**Q3.** If 3 soldiers can pack 36 supply boxes in 2 hours, how many boxes can 5 soldiers pack in 3 hours?

- A) 60 B) 80 C) 90 D) 100

**Answer: C) 90**

*Explanation: Rate =  $36 \div (3 \times 2) = 6$  boxes/soldier/hour →  $5 \times 3 \times 6 = 90$*

**Q4.** "The sergeant gave an arduous training regimen to the recruits." ARDUOUS most nearly means:

- A) Dangerous B) Demanding C) Unusual D) Brief

**Answer: B) Demanding**

*Explanation: "Arduous" means requiring great effort or labor — synonymous with demanding or strenuous*

**Q5.** TENACIOUS most nearly means:

- A) Timid B) Talented C) Persistent D) Temperamental

**Answer: C) Persistent**

*Explanation: "Tenacious" = holding firm; not easily giving up. Root: "tenac-" (to hold)*

**Q6.** Solve:  $3x^2 - 12 = 0$

- A)  $x = \pm 2$  B)  $x = \pm 4$  C)  $x = \pm 3$  D)  $x = \pm 6$

**Answer: A)  $x = \pm 2$**

*Explanation:  $3x^2 = 12 \rightarrow x^2 = 4 \rightarrow x = \pm\sqrt{4} = \pm 2$*

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