



# ASVAB Study Sheet Outline: Arithmetic Reasoning & Mathematics Knowledge

## Introduction

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ASVAB Boot Camp is an online test preparation site that helps students quickly prepare for the ASVAB. Leading subject matter and e-learning experts have worked together to analyze every detail of preparing for the test in order to create the best ASVAB study materials available.

## Arithmetic Reasoning

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The Arithmetic Reasoning section is one out of the two major math sections that is on the Armed Services Vocational Aptitude Battery (ASVAB) military entrance test. Below is a “cheat sheet”, or outline of information, that will be tested on during the Arithmetic Reasoning section of the ASVAB.

1. Divide, Multiply, Add or Subtract the following:
  - Whole Numbers (positive and negative)
  - Decimals (positive and negative)
  - Fractions (positive and negative)
  - Exponents
2. Factorization
3. Least Common Multiple
4. Order of Operations
  - PEMDAS (Parenthesis, Exponents, Multiply, Divide, Add, Subtract)
5. Scientific Notation
6. Change a Fraction to Decimal
7. Change a Decimal to Fraction
8. Square Root
9. Simplify Radicals
10. Factorials
11. Ratios
12. Proportions
13. Rate = Distance ÷ Time
14. Average
  - Mean
  - Median
  - Mode
15. Probability



## Mathematics Knowledge

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Here is the outline of topics that will be tested on during the Mathematics Knowledge section of the ASVAB:

1. Algebra
  - Expressions
  - Equations
    - Quadratic Equation
      - FOIL (First, Outside, Inner, Last)
  - Substitute variables
  - Inequalities
    - Greater than
    - Less than
2. Geometry
  - Line Segments
    - Perpendicular
    - Parallel
  - Angles
    - Adjacent
    - Right
    - Obtuse
    - Acute
  - Triangles
    - Sub of Interior Angles ( $180^\circ$ )
    - Perimeter
    - Area
    - Types
      - Equilateral
      - Isosceles
      - Right
    - Pythagorean Theorem
  - Quadrilaterals
    - Perimeter
    - Area
    - Types
      - Rectangle
      - Square
      - Parallelogram
      - Trapezoid
    - Circles
      - Radius
      - Chord
      - Diameter
      - Circumference



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- Area
- Rectangular Solids
- Volume

## Test Timing

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The ASVAB Arithmetic Reasoning section consists of 30 questions you must answer in 36 minutes. The ASVAB Mathematics Knowledge section contains 25 questions that must be answered in 24 minutes. This may not seem like a lot of time to answer all the questions, but most people do finish in time if they have taken [ASVAB math practice tests](#) to get familiar with the pace that must be maintained to answer all the questions in time. If you've used a [course for ASVAB math](#) practice then you can use the above list as a checklist to make sure you study each topic that will be tested on during the Arithmetic Reasoning and Mathematics Knowledge sections of the ASVAB.