The Ultimate Step by Step Guide
to Preparing for the ASVAB Math Test

Test taker's #1 Choice

# ASVAB Math 2022

# for Beginners

Reza Nazari

✓ Recommended by Test Prep Experts

# ASVAB MATH FOR BEGINNERS

## The Ultimate Step by Step Guide to Preparing for the ASVAB Math Test

**By**

**Reza Nazari**



**About Effortless Math Education**

Effortless Math Education operates the www.effortlessmath.com website, which prepares and publishes Test prep and Mathematics learning resources. Effortless Math authors' team strives to prepare and publish the best quality Mathematics learning resources to make learning Math easier for all. We Help Students Learn to Love Mathematics.

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All inquiries should be addressed to:
info@effortlessMath.com
www.EffortlessMath.com

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# *Welcome to*
# ASVAB Math Prep 2022

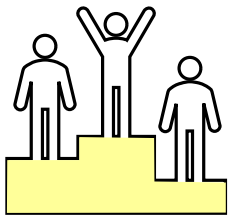


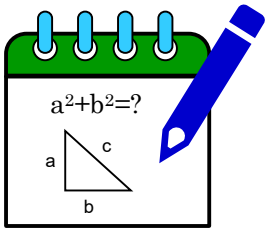


Thank you for choosing Effortless Math for your ASVAB Math test preparation and congratulations on making the decision to take the ASVAB test! It's a remarkable move you are taking, one that shouldn't be diminished in any capacity. That's why you need to use every tool possible to ensure you succeed on the test with the highest possible score, and this extensive study guide is one such tool.

If math has never been a strong subject for you, don't worry! This book will help you prepare for (and even ACE) the ASVAB test's math section. As test day draws nearer, effective preparation becomes increasingly more important. Thankfully, you have this comprehensive study guide to help you get ready for the test. With this guide, you can feel confident that you will be more than ready for the ASVAB Math test when the time comes.

First and foremost, it is important to note that this book is a study guide and not a textbook. It is best read from cover to cover. Every lesson of this "self-guided math book" was carefully developed to ensure that you are making the most effective use of your time while preparing for the test. This up-to-date guide reflects the 2022 test guidelines and will put you on the right track to hone your math skills, overcome exam anxiety, and boost your confidence, so that you can have your best to succeed on the ASVAB Math test.





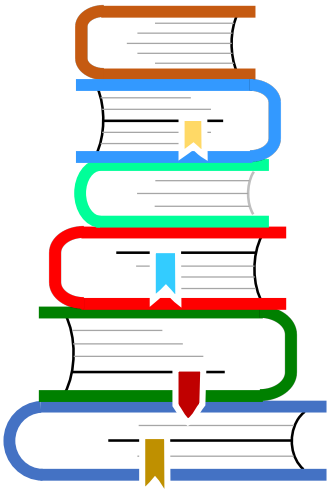

**This study guide will**:

- ☑ Explain the format of the ASVAB Math test.
- ☑ Describe specific test-taking strategies that you can use on the test.
- ☑ Provide ASVAB Math test-taking tips.
- ☑ Review all ASVAB Math concepts and topics you will be tested on.
- ☑ Help you identify the areas in which you need to concentrate your study time.
- ☑ Offer exercises that help you develop the basic math skills you will learn in each section.
- ☑ Give **2 realistic and full-length practice tests** (featuring new question types) with detailed answers to help you measure your exam readiness and build confidence.

This resource contains everything you will ever need to succeed on the ASVAB Math test. You'll get in-depth instructions on every math topic as well as tips and techniques on how to answer each question type. You'll also get plenty of practice questions to boost your test-taking confidence.

In addition, in the following pages you'll find:

- **How to Use This Book Effectively** – This section provides you with step-by-step instructions on how to get the most out of this comprehensive study guide.
- **How to study for the ASVAB Math Test** – A six-step study program has been developed to help you make the best use of this book and prepare for your ASVAB Math test. Here you'll find tips and strategies



## Chapter 4: Answers

1) 1: 9
2) 1: 7
3) 1: 9
4) 2: 3
5) 5: 8
6) 5: 9
7) 4: 9
8) 2: 9
9) 1: 4
10) 7: 9
11) 2: 3
12) 1: 3
13) 4: 5
14) 442
15) 1: 2

16) $Jack's\ cla \quad :\frac{48}{20} = \frac{12}{5}$ $Michael's\ class: \frac{28}{12} = \frac{7}{3}$ Jack's class has a higher ratio of tall to short student: $\frac{12}{5} > \frac{7}{3}$

17) Quick market
18) 480, 30 bagels per hour
19) $22.04
20) 6
21) 14
22) 6
23) 20
24) 3
25) 10
26) 21
27) 5
28) 12
29) 10
30) 15
31) 9
32) 8
33) 8
34) 7
35) 9
36) 4
37) 27
38) 8
39) 25
40) 40
41) 30
42) 48 *meters*
43) 18.4 *mete*

CHAPTER

# 5 Percentage

Math topics that you'll learn in this chapter:



- ☑ Percent Problems
- ☑ Percent of Increase and Decrease
- ☑ Discount, Tax and Tip
- ☑ Simple Interest

# Percent Problems

- Percent is a ratio of a number and 100. It always has the same denominator, 100. The percent symbol is "%".
- Percent means "per 100". So, 20% is $\frac{20}{100}$.
- In each percent problem, we are looking for the base, or the part or the percent.
- Use these equations to find each missing section in a percent problem:
  - ❖ Base = Part ÷ Percent
  - ❖ Part = Percent × Base
  - ❖ Percent = Part ÷ Base

## Examples:

**Example 1.** What is 20% of 40?

***Solution***: In this problem, we have the percent (20%) and the base (40) and we are looking for the "part". Use this formula: $Part = Percent \times Base$.
Then: $Part = 20\% \times 40 = \frac{20}{100} \times 40 = 0.20 \times 40 = 8$. The answer: 20% of 40 is 8.

**Example 2.** 25 is what percent of 500?

***Solution***: In this problem, we are looking for the percent. Use this equation: $Percent = Pa \div Ba \rightarrow Percent = 25 \div 500 = 0.05 = 5\%$.
Then: 25 is 5 percent of 500.

**Example 3.** 80 is 20 percent of what number?

***Solution***: In this problem, we are looking for the base. Use this equation: $Base = Part \div Percent \rightarrow Base = 80 \div 20\% = 80 \div 0.20 = 400$
Then: 80 is 20 percent of 400.

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## Percent of Increase and Decrease

- Percent of change (increase or decrease) is a mathematical concept that represents the degree of change over time.
- To find the percentage of increase or decrease:

  1. New Number – Original Number
  2. (The result ÷ Original Number) × 100

- Or use this formula: Percent of change = $\frac{new\ number - original\ number}{original\ numb} \times 100$
- Note: If your answer is a negative number, then this is a percentage decrease. If it is positive, then this is a percentage increase.

## Examples:

**Example 1.** The price of a shirt increases from $30 to $36. What is the percentage increase?

***Solution***: First, find the difference: $36 - 30 = 6$

Then: $(6 \div 30) \times 100 = \frac{6}{30} \times 100 = 20$. The percentage increase is 20%. It means that the price of the shirt increased by 20%.

**Example 2.** The price of a table decreased from $50 to $35. What is the percent of decrease?

***Solution***: Use this formula:

$Percent\ of\ change = \frac{new\ number - original\ numbe}{original\ number} \times 100 =$

$\frac{35-50}{50} \times 100 = \frac{-15}{50} \times 100 = -30$. The percentage decrease is 30. (the negative sign means percentage decrease) Therefore, the price of the table decreased by 30%.



## Discount, Tax and Tip

- To find the discount: Multiply the regular price by the rate of discount
- To find the selling price: Original price – discount
- To find tax: Multiply the tax rate to the taxable amount (income, property value, etc.)
- To find the tip, multiply the rate to the selling price.

## Examples:

**Example 1.** With an 20% discount, Ella saved \$50 on a dress. What was the original price of the dress?

***Solution***: let $x$ be the original price of the dress. Then: $20\ \%\ of\ x = 50$. Write an equation and solve for $x$: $0.20 \times x = 50 \rightarrow x = \frac{50}{0.20} = 250$. The original price of the dress was \$250.

**Example 2.** Sophia purchased a new computer for a price of \$820 at the Apple Store. What is the total amount her credit card is charged if the sales tax is 5%?

***Solution***: The taxable amount is \$820, and the tax rate is 5%. Then:

$$Tax = 0.05 \times 820 = 41$$

$$Final\ pric\ \ = Selling\ pric \qquad \rightarrow final\ price = \$820 + \$41 = \$861$$

**Example 3.** Nicole and her friends went out to eat at a restaurant. If their bill was \$60.00 and they gave their server a 15% tip, how much did they pay altogether?

***Solution***: First, find the tip. To find the tip, multiply the rate to the bill amount. $Tip = 60 \times 0.15 = 9$. The final price is: $\$60 + \$9 = \$69$

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