ASVAB Math in 10 Days



The Most Effective ASVAB Math Crash Course

Test Taker's #1 Choice



This Book Help

- ✓ Hone Your Math Skills
- ✓ Boost Your Confidence
- ✓ Overcome Your Exam Anxiety

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Reza Nazari

✓ Recommended by Test Prep Experts

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The Most Effective ASVAB Math Crash Course

By

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Welcome to
ASVAB Math Prep
2022

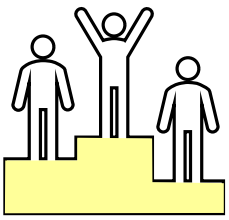


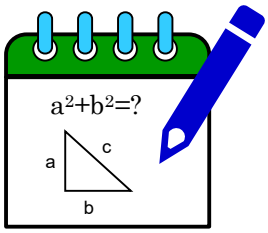


Thank you for choosing Effortless Math for your ASVAB Math test preparation and congratulations on making the decision to take the ASVAB test! It's a remarkable move you are taking, one that shouldn't be diminished in any capacity. That's why you need to use every tool possible to ensure you succeed 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 2021 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.



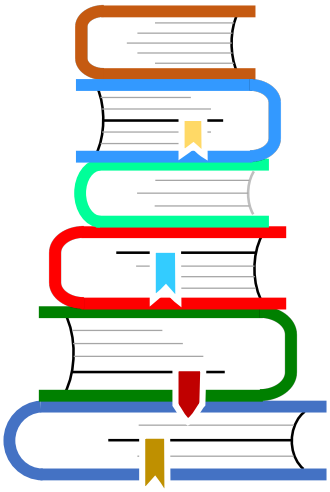


This study guide will:

- ☑ 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 to guide your study program and help you understand ASVAB Math and how to ace the test.

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 25% 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: 25 % of $x = 50$. Write an equation and solve for x: $0.25 \times x = 50 \rightarrow x = \frac{50}{0.25} = 200$. The original price of the dress was $200.

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 10%?

Solution: The taxable amount is $820, and the tax rate is 10%. Then:

$$Tax = 0.10 \times 820 = 82$$

$$Final\ price = Selling\ pric \qquad \rightarrow final\ pric = \$820 + \$82 = \$902$$

Example 3. Nicole and her friends went out to eat at a restaurant. If their bill was $50 and they gave their server a 12% tip, how much did they pay altogether?

Solution: First, find the tip. To find the tip, multiply the rate to the bill amount. $Tip = 50 \times 0.12 = 6$. The final amount is: $\$50 + \$6 = \$56$

Simple Interest

☆ Simple Interest: The charge for borrowing money or the return for lending it.

☆ Simple interest is calculated on the initial amount (principal).

☆ To solve a simple interest problem, use this formula:

$$Interest = principal \times rate \times time \rightarrow (I = p \times r \times t = prt)$$

Examples:

Example 1. Find simple interest for $250 investment at 6% for 5 years.

Solution: Use Interest formula:
$I = prt$ $(P = \$250, r = 6\% = \frac{6}{100} = 0.06$ and $t = 5)$
Then: $I = 250 \times 0.06 \times 5 = \$75$

Example 2. Find simple interest for $1,300 at 3% for 2 years.

Solution: Use Interest formula:
$I = prt$ $(P = \$1{,}300, r = 3\% = \frac{3}{100} = 0.03$ and $t = 2)$
Then: $I = 1{,}300 \times 0.03 \times 2 = \$78.00$

Example 3. Andy received a student loan to pay for his educational expenses this year. What is the interest on the loan if he borrowed $5,100 at 5% for 4 years?

Solution: Use Interest formula: $I = prt$. $P = \$5{,}100$, r = 5% = 0.05 and $t = 4$
Then: $I = 5{,}100 \times 0.05 \times 4 = \$1{,}020$

Example 4. Bob is starting his own small business. He borrowed $28,000 from the bank at an 7% rate for 6 months. Find the interest Bob will pay on this loan.

Solution: Use Interest formula:
$I = prt$. $P = \$28{,}000$, $r = 7\% = 0.07$ and $t = 0.5$ (6 months is half year). Then:
$I = 28{,}000 \times 0.07 \times 0.5 = \$980$

Day 3: Practices

Reduce each ratio.

1) $3:15 =$ ___: ___
2) $8:72 =$ ___: ___
3) $15:25 =$ ___: ___
4) $35:10 =$ ___: ___
5) $36:42 =$ ___: ___
6) $24:64 =$ ___: ___

Solve.

7) In Jack's class, 48 of the students are tall and 20 are short. In Michael's class 28 students are tall and 12 students are short. Which class has a higher ratio of tall to short students? _____

8) You can buy 7 cans of green beans at a supermarket for $7.49. How much does it cost to buy 21 cans of green beans? _____

Solve each proportion.

9) $\frac{3}{4} = \frac{12}{x} \rightarrow x =$ ____
10) $\frac{2}{5} = \frac{x}{20} \rightarrow x =$ ____
11) $\frac{9}{x} = \frac{3}{5} \rightarrow x =$ ____
12) $\frac{x}{24} = \frac{5}{6} \rightarrow x =$ ____
13) $\frac{8}{4} = \frac{x}{16} \rightarrow x =$ ____
14) $\frac{3}{x} = \frac{12}{16} \rightarrow x =$ ____
15) $\frac{24}{32} = \frac{3}{x} \rightarrow x =$ ____
16) $\frac{x}{7} = \frac{21}{49} \rightarrow x =$ ____

Solve each problem.

17) Two rectangles are similar. The first is $6\,fee$ wide and $36\,feet$ long. The second is $10\,feet$ wide. What is the length of the second rectangle? _____

18) Two rectangles are similar. One is $4.6\,meters$ by $7\,meters$. The longer side of the second rectangle is $28\,meters$. What is the other side of the second rectangle? _____

Solve each problem.

19) What is 15% of 60? ____

20) What is 20% of 500? ____

21) 25 what is percent of 250? __

22) 30 is what percent of 150? ___

23) 15 is 10 percent of what number? ___

24) 25 is 5 percent of what number? ___

Solve each problem.

25) Bob got a raise, and his hourly wage increased from $15 to $21. What is the percent increase? ____ %

26) A $45 shirt now selling for $36 is discounted by what percent? ____ %

Find the selling price of each item.

27) Original price of a computer: $500

Tax: 5%, Selling price: $_____

28) Nicolas hired a moving company. The company charged $500 for its services, and Nicolas gives the movers a 14% tip. How much does Nicolas tip the movers? $____

29) Mason has lunch at a restaurant and the cost of his meal is $60. Mason wants to leave a 10% tip. What is Mason's total bill, including tip? $_____

Determine the simple interest for the following loans.

30) $800 at 3% for 2 years. $__

31) $260 at 10% for 5 years. $__

32) $380 at 4% for 3 years. $__

33) $1,200 at 2% for 1 years. $__

Day 3: Answers

1) $3:15 \to 3 \div 3 = 1,\ 15 \div 3 = 5 \to 3:15 = 1:5$

2) $8:72 \to 8 \div 8 = 1,\ 72 \div 8 = 9 \to 8:72 = 1:9$

3) $15:25 \to 15 \div 5 = 3,\ 25 \div 5 = 5 \to 15:25 = 3:5$

4) $35:10 \to 35 \div 5 = 7,\ 10 \div 5 = 2 \to 35:10 = 7:2$

5) $36:42 \to 36 \div 6 = 6,\ 42 \div 6 = 7 \to 36:42 = 6:7$

6) $24:64 \to 24 \div 8 = 3,\ 64 \div 8 = 8 \to 24:64 = 3:8$

7) In Jack's class the ratio of tall students to short students is: $\frac{48}{20} = \frac{48 \div 4}{20 \div 4} = \frac{12}{5}$ and in Michael's class the ratio is: $\frac{28}{12} = \frac{28 \div 4}{12 \div 4} = \frac{7}{3}$. Compare two fractions: $\frac{12}{5} = \frac{12 \times 3}{5 \times 3} = \frac{36}{15}$ and $\frac{7}{3} = \frac{7 \times 5}{3 \times 5} = \frac{35}{15} \to \frac{36}{15} > \frac{35}{15}$. In Jack's class the ratio of tall to short students is higher.

8) Write a proportion and solve: $\frac{7}{7.49} = \frac{21}{x} \to x = 3 \times 7.49 = \$22.47$

9) $\frac{3}{4} = \frac{12}{x} \to 3 \times x = 4 \times 12 \to 3x = 48 \to x = \frac{48}{3} = 16$

10) $\frac{2}{5} = \frac{x}{20} \to 5 \times x = 2 \times 20 \to 5x = 40 \to x = \frac{40}{5} = 8$

11) $\frac{9}{x} = \frac{3}{5} \to 9 \times 5 = 3 \times x \to 45 = 3x \to x = \frac{45}{3} = 15$

12) $\frac{x}{24} = \frac{5}{6} \to 6 \times x = 5 \times 24 \to 6x = 120 \to x = \frac{120}{6} = 20$

13) $\frac{8}{4} = \frac{x}{16} \to 8 \times 16 = 4 \times x \to 128 = 4x \to x = \frac{128}{4} = 32$

14) $\frac{3}{x} = \frac{12}{16} \to 3 \times 16 = 12 \times x \to 48 = 12x \to x = \frac{48}{12} = 4$

15) $\frac{24}{32} = \frac{3}{x} \to 24 \times x = 3 \times 32 \to 24x = 96 \to x = \frac{96}{24} = 4$

16) $\frac{x}{7} = \frac{21}{49} \to 49 \times x = 7 \times 21 \to 49x = 147 \to x = \frac{147}{49} = 3$

17) $\frac{6}{10} = \frac{36}{x} \to 6 \times x = 36 \times 10 \to 6x = 360 \to x = \frac{360}{6} = 60 \to x = 60\ feet$

18) $\frac{4.6}{7} = \frac{x}{28} \to 7 \times x = 28 \times 4.6 \to 7x = 128.8 \to x = \frac{128.8 \div 7}{7 \div 7} = 18.4 \to x = 18.4\ meters$

19) Part = Percent × Base → $15\% \times 60 = \frac{15}{100} \times 60 = 0.15 \times 60 = 9$

20) Part = Percent × Base → $20\% \times 500 = \frac{20}{100} \times 500 = 0.2 \times 500 = 100$

21) Percent = Part ÷ Base → $25 \div 250 = \frac{25}{250} = \frac{25 \div 25}{250 \div 25} = \frac{1}{10} = \frac{1}{10} \times 100 = 10\%$

22) Percent = Part ÷ Base → $30 \div 150 = \frac{30}{150} = \frac{30 \div 30}{150 \div 30} = \frac{1}{5} = \frac{1}{5} \times 100 = 20\%$

23) Base = Part ÷ Percent → $15 \div 10\% = 15 \div \frac{10}{100} = 15 \div 0.1 = 150$

24) Base = Part ÷ Percent → $25 \div 5\% = 25 \div \frac{5}{100} = 25 \div 0.05 = 500$

25) Percent of change $= \frac{new\ number - original\ nu}{original\ numb} \times 100 = \frac{21-15}{15} \times 100 = \frac{6}{15} \times 100 = 40\%$

26) $\frac{36-45}{45} \times 100 = \frac{-9}{45} \times 100 = -20\%$ (the negative sign means that the price decreased)

27) $5\% \times 500 = \frac{5}{100} \times 500 = 25 \rightarrow \$500 + \$25 = \$525$

28) $14\% \times \$500 = \frac{14}{100} \times \$500 = \$500 \times 0.14 = \$70$

29) $10\% \times \$60 = \frac{10}{100} \times \$60 = \$6 \rightarrow \$60 + \$6 = \$66$

30) $800 \times 3\% \times 2 = 800 \times \frac{3}{100} \times 2 = \frac{4{,}800}{100} = 48$

31) $260 \times 10\% \times 5 = 260 \times \frac{10}{100} \times 5 = 260 \times \frac{1}{10} \times 5 = 130$

32) $380 \times 4\% \times 3 = 380 \times \frac{4}{100} \times 3 = 45.6$

33) $1{,}200 \times 2\% \times 1 = 1{,}200 \times \frac{2}{100} \times 1 = 24$