Everything You Need to Help Achieve an Excellent Score

ASVAB

Math Full Study Guide

Comprehensive Review + Practice Tests + Online Resources

2022

2023

✓ Recommended by Test Prep Experts

Reza Nazari

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By

Reza Nazari

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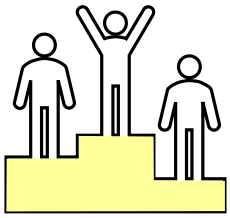
Welcome to ASVAB Math Prep 2022

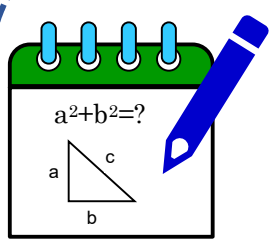


Thank you for choosing Effortless Math for your ASVAB Math test preparation and congratulations on making the decision to take the ASVAB test! It's a remarkable move you are taking, one that shouldn't be diminished in any capacity. That's why you need to use every tool possible to ensure you succeed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



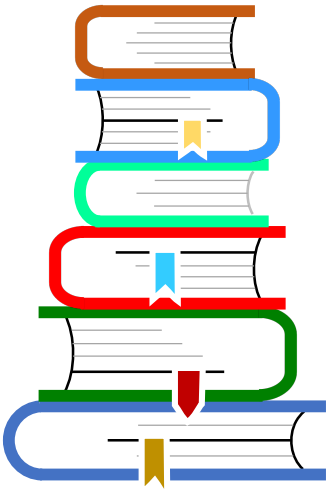


This study guide will:

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

- **ASVAB Math Review** – Learn everything you need to know about the ASVAB Math test.
- **ASVAB Math Test-Taking Strategies** – Learn how to effectively put these recommended test-taking techniques into use for improving your ASVAB Math score.
- **Test Day Tips** – Review these tips to make sure you will do your best when the big day comes.

Effortless Math's ASVAB Online Center

Effortless Math Online ASVAB Center offers a complete study program, including the following:

- ✓ Step-by-step instructions on how to prepare for the ASVAB Math test
- ✓ Numerous ASVAB Math worksheets to help you measure your math skills
- ✓ Complete list of ASVAB Math formulas
- ✓ Video lessons for all ASVAB Math topics
- ✓ Full-length ASVAB Math practice tests
- ✓ And much more…

No Registration Required.

Visit **EffortlessMath.com/ASVAB** to find your online ASVAB Math resources.

CHAPTER

4 Ratios and Proportions

Math topics that you'll learn in this chapter:



- ✓ Simplifying Ratios
- ✓ Proportional Ratios
- ✓ Create Proportion
- ✓ Similarity and Ratios



Topic	Simplifying Ratios	
Notes	✓ Ratios are used to make comparisons between two numbers. ✓ Ratios can be written as a fraction, using the word "to", or with a colon. ✓ You can calculate equivalent ratios by multiplying or dividing both sides of the ratio by the same number.	
Examples	***Simplify.*** $16:56 =$ Both numbers 16 and 56 are divisible by $8 \Rightarrow 16 \div 8 = 2, 56 \div 8 = 7,$ Then: $16:56 = 2:7$ ***Simplify***. $\frac{35}{45} =$ Both numbers 35 and 45 are divisible by $5, \Rightarrow 35 \div 5 = 7, 45 \div 5 = 9,$ Then: $\frac{35}{45} = \frac{7}{9}$	
Your Turn! **Find more at** bit.ly/3nKwq0Z	1) $\frac{5}{45} = -$	2) $\frac{12}{36} = -$
	3) $\frac{15}{60} = -$	4) $\frac{48}{56} = -$
	5) $\frac{24}{96} = -$	6) $\frac{40}{72} = -$
	7) $\frac{24}{80} = -$	8) $\frac{34}{136} = -$

Topic	Proportional Ratios	
Notes	✓ Two ratios are proportional if they represent the same relationship. ✓ A proportion means that two ratios are equal. It can be written in two ways: $\frac{a}{b}=\frac{c}{d}$ $a:b=c:d$	
Example	***Solve this proportion for*** x. $\frac{4}{9}=\frac{24}{x}$ Use cross multiplication: $\frac{4}{9}=\frac{24}{x}\Rightarrow 4\times x=9\times 24\Rightarrow 4x=216$ Divide to find x: $x=\frac{216}{4}\Rightarrow x=54$	
Your Turn!	1) $\frac{1}{5}=\frac{6}{x}\Rightarrow x=$ ____	2) $\frac{3}{4}=\frac{15}{x}\Rightarrow x=$ ____
	3) $\frac{2}{11}=\frac{4}{x}\Rightarrow x=$ ____	4) $\frac{4}{5}=\frac{x}{20}\Rightarrow x=$ ____
	5) $\frac{8}{9}=\frac{24}{x}\Rightarrow x=$ ____	6) $\frac{16}{6}=\frac{x}{30}\Rightarrow x=$ ____
Find more at bit.ly/37GHQxp	7) $\frac{5}{14}=\frac{30}{x}\Rightarrow x=$ ____	8) $\frac{4}{14}=\frac{34}{x}\Rightarrow x=$ ____

Topic	Create Proportion
Notes	✓ To create a proportion, simply find (or create) two equal fractions. ✓ Use cross products to solve proportions or to test whether two ratios are equal and form a proportion. $\frac{a}{b} = \frac{c}{d} \Rightarrow a \times d = c \times b$
Example	***State if this pair of ratios form a proportion.*** $\frac{1}{3}$ ***and*** $\frac{12}{40}$ Use cross multiplication: $\frac{1}{3} = \frac{12}{40} \rightarrow 1 \times 40 = 12 \times 3 \rightarrow 40 = 36$, which is not correct. Therefore, this pair of ratios doesn't form a proportion.
Your Turn!	***State if each pair of ratios form a proportion.***

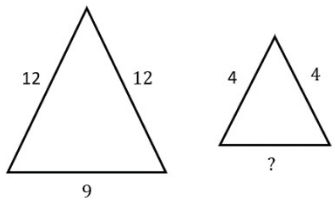
1) $\frac{2}{5}$ and $\frac{15}{45}$	2) $\frac{3}{4}$ and $\frac{18}{24}$
3) $\frac{2}{11}$ and $\frac{16}{88}$	4) $\frac{2}{5}$ and $\frac{54}{90}$
5) $\frac{2}{3}$ and $\frac{42}{56}$	6) $\frac{4}{5}$ and $\frac{28}{70}$
7) $\frac{2}{7}$ and $\frac{5}{40}$	8) $\frac{6}{15}$ and $\frac{18}{40}$

Find more at

bit.ly/37GHQxp

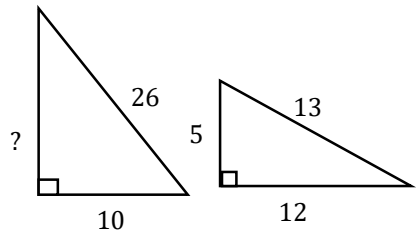
9) Solve.

Five pencils costs $\$0.60$. How many pencils can you buy for $\$4.80$? _____

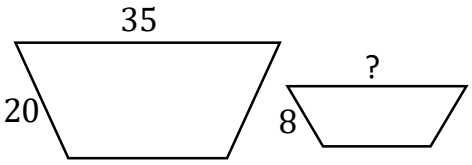
Topic	Similarity and Ratios
Notes	✓ Two figures are similar if they have the same shape. ✓ Two or more figures are similar if the corresponding angles are equal, and the corresponding sides are in proportion.
Example	***Following triangles are similar. What is the value of unknown side?*** **Solution:** Find the corresponding sides and write a proportion: $\frac{4}{12} = \frac{x}{9}$. Now, use cross product to solve for x: $\frac{4}{12} = \frac{x}{9} \rightarrow 4 \times 9 = 12 \times x \rightarrow 36 = 12x$. Divide both sides by 12. Then: $12x = 36 \rightarrow \frac{36}{12} = \frac{12x}{12} \rightarrow x = 3$. The missing side is 3. 

Your Turn!

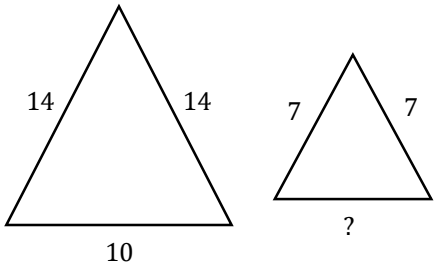
1)



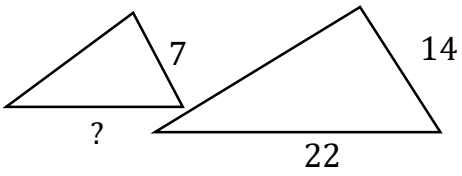
2)



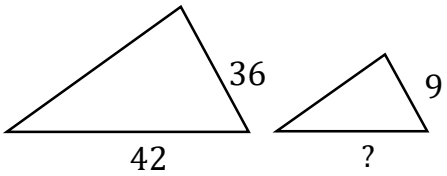
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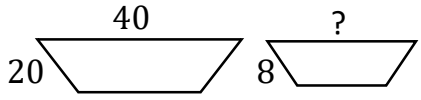
4)



5)



6)



Find more at

bit.ly/2KKKmcV

Chapter 4: Answers

Simplifying Ratios

1) $\frac{1}{9}$
2) $\frac{1}{3}$
3) $\frac{1}{4}$
4) $\frac{6}{7}$
5) $\frac{1}{4}$
6) $\frac{5}{9}$
7) $\frac{3}{10}$
8) $\frac{1}{4}$

Proportional Ratios

1) 30
2) 20
3) 22
4) 16
5) 27
6) 80
7) 84
8) 119

Create Proportion

1) No
2) Yes
3) Yes
4) No
5) No
6) No
7) No
8) No
9) 40

Similarity and Ratios

1) 24
2) 14
3) 5
4) 11
5) 10.5
6) 16