

Virginia SOL Grade 7 Math Quizzes

Quick Topic Assessments with Answer Key

Dr. A. Nazari

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Grade 7 Math Quizzes

Topic Quizzes • Chapter Reviews • Answer Key

Quick, focused quizzes are one of the best ways to find out what you really know — and what you still need to work on.

This book has a short quiz for every Grade 7 math topic. Each one takes about 10–15 minutes and covers the most important skills for that section. Take a quiz, score it, and see exactly where you stand.

Use it after studying a topic, the night before a test, or anytime you want a fast check-in on your math skills.



Take the Quiz

*10–15 minutes
per quiz*



Score It

*Check every answer
in the key*



Review & Retry

*Study what you missed
then quiz again*

CHAPTER

1

Ratios and Proportional Relationships

★ What's Inside ★

Quiz 1: Unit Rates with Fractions 3



PREVIEW



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 CHAPTER 1

Quiz 1

Unit Rates with Fractions

 Name: _____

 Date: _____

 Score: _____ / 8

- 1 A jogger runs $\frac{3}{4}$ of a mile in $\frac{1}{2}$ hour. What is the jogger's **unit rate** in miles per hour?

$$\begin{array}{c} \boxed{} \boxed{} \boxed{} \boxed{} \\ \div \\ \boxed{} \boxed{} \\ = \underline{\hspace{2cm}} \text{ mph} \end{array}$$

- 2 A recipe uses $\frac{2}{3}$ cup of cocoa for $\frac{1}{4}$ batch. How much cocoa is needed for **one full batch**?

A. $\frac{1}{6}$ cup

B. $\frac{8}{3}$ cups

C. $\frac{2}{12}$ cup

D. $2\frac{2}{3}$ cups

- 3 Which painter is faster? Write $>$, $<$, or $=$ in the circle.

Maya: $\frac{2}{5}$ room in $\frac{1}{3}$ hr

Leo: $\frac{3}{4}$ room in $\frac{1}{2}$ hr

Maya's rate



Leo's rate

- 4 Complete the table. Each row shows the **same rate**.

Gallons	$\frac{1}{2}$	1
Miles	$\frac{5}{6}$	_____



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Unit rate (miles per gallon): _____

- 5 True or False: A printer that uses $\frac{3}{8}$ of a cartridge for $\frac{1}{4}$ ream of paper uses **more than** 1 full cartridge per ream.

True False

- 6 A snail crawls $\frac{5}{8}$ meter in $\frac{3}{4}$ hour. A beetle crawls $\frac{7}{10}$ meter in $\frac{4}{5}$ hour. Which creature is faster, and by how much?



Faster creature & difference: _____

Bonus Challenge

This is a bonus question for extra credit. Give it your best attempt.

- 7 A mystery smoothie recipe uses $\frac{a}{b}$ cups of fruit per $\frac{1}{3}$ cup of yogurt. The unit rate is exactly $2\frac{1}{4}$ cups of fruit per cup of yogurt. What fraction $\frac{a}{b}$ is in the recipe? Show your work.

Show your work

Score Summary

I got _____ out of _____ correct.



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CHAPTER

2

Operations with Rational Numbers

★ What's Inside ★

Quiz 2: Integers and Their Opposites 7



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 CHAPTER 3

Quiz 2

Integers and Their Opposites

 Name: _____

 Date: _____

 Score: _____ / 8

- 1 The number line shows four rational numbers. List them in order from **least to greatest**.



Least to greatest: _____

- 2 Insert $<$, $>$, or $=$ in the blank: $-\frac{2}{3}$ _____ -0.5

- 3 Which list is correctly ordered from **least to greatest**?

A. $-1, -0.75, -\frac{1}{4}, 0.3, \frac{1}{2}$

B. $-\frac{1}{4}, -1, -0.75, 0.3, \frac{1}{2}$

C. $\frac{1}{2}, 0.3, -\frac{1}{4}, -0.75, -1$

D. $-0.75, -1, -\frac{1}{4}, 0.3, \frac{1}{2}$

- 4 True or False: $|-3| > |2|$.

True False

- 5 Find the opposite and absolute value of $-\frac{5}{8}$.

Opposite =: _____

$|\frac{-5}{8}|$ =: _____

- 6 Three cities have elevations: City A at -15 ft, City B at 42 ft, City C at -8 ft. Order the cities from **lowest** to **highest** elevation. Use inequality symbols.

Order: _____



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Bonus Challenge

This is a bonus question for extra credit. Give it your best attempt.

- 7 List all integers n such that $-3 < n \leq 2$. Then arrange them from **greatest** to **least absolute value**.

 Show your work

Score Summary

I got _____ out of _____ correct.



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Answer Key & Explanations



Answer Key

First try each quiz on your own, then check your work here.

Chapter 1

Quiz 1: Unit Rates with Fractions

1 $1\frac{1}{2}$ mph

2 D ($2\frac{2}{3}$ cups)

3 $<$ (Maya is slower)

4 $1\frac{2}{3}$ mi; unit rate = $1\frac{2}{3}$ mpg

5 True

6 Beetle; faster by $\frac{1}{24}$ m/hr

7 $\frac{3}{4}$

Explanations

1 Divide distance by time: $\frac{3}{4} \div \frac{1}{2}$. Keep-Change-Flip: $\frac{3}{4} \times \frac{2}{1} = \frac{6}{4} = \frac{3}{2} = 1\frac{1}{2}$ mph. Check: in $\frac{1}{2}$ hr at $1\frac{1}{2}$ mph you go $\frac{3}{2} \times \frac{1}{2} = \frac{3}{4}$ mi. ✓

2 Divide cocoa by batches: $\frac{2}{3} \div \frac{1}{4} = \frac{2}{3} \times \frac{4}{1} = \frac{8}{3} = 2\frac{2}{3}$ cups. Choice B shows the improper form, but D is the simplified mixed number. Common mistake: multiplying instead of dividing gives $\frac{2}{3} \times \frac{1}{4} = \frac{1}{6}$ (choice A).

3 Maya: $\frac{2}{5} \div \frac{1}{3} = \frac{2}{5} \times 3 = \frac{6}{5} = 1\frac{1}{5}$ rooms/hr. Leo: $\frac{3}{4} \div \frac{1}{2} = \frac{3}{4} \times 2 = \frac{6}{4} = 1\frac{1}{2}$ rooms/hr. Since $1\frac{1}{5} < 1\frac{1}{2}$, Maya is slower. Common mistake: comparing the fractions without finding unit rates.

4 Find the unit rate: $\frac{5}{6} \div \frac{1}{2} = \frac{5}{6} \times 2 = \frac{10}{6} = \frac{5}{3} = 1\frac{2}{3}$ miles per gallon. For 1 gallon the answer is the unit rate itself: $1\frac{2}{3}$ miles. Check: $\frac{5}{3} \times \frac{1}{2} = \frac{5}{6}$. ✓



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5 Find the unit rate: $\frac{3}{8} \div \frac{1}{4} = \frac{3}{8} \times 4 = \frac{12}{8} = \frac{3}{2} = 1\frac{1}{2}$ cartridges per ream. Since $1\frac{1}{2} > 1$, the statement is true. Common mistake: dividing $\frac{1}{4} \div \frac{3}{8}$ (wrong order) gives $\frac{2}{3}$, which would incorrectly suggest "False."

6 Snail: $\frac{5}{8} \div \frac{3}{4} = \frac{5}{8} \times \frac{4}{3} = \frac{20}{24} = \frac{5}{6}$ m/hr. Beetle: $\frac{7}{10} \div \frac{4}{5} = \frac{7}{10} \times \frac{5}{4} = \frac{35}{40} = \frac{7}{8}$ m/hr. Difference: $\frac{7}{8} - \frac{5}{6} = \frac{21}{24} - \frac{20}{24} = \frac{1}{24}$ m/hr. The beetle is faster by $\frac{1}{24}$ m/hr. ✓

7 Work backward: unit rate = $\frac{a}{b} \div \frac{1}{3}$, so $\frac{a}{b} = 2\frac{1}{4} \times \frac{1}{3} = \frac{9}{4} \times \frac{1}{3} = \frac{9}{12} = \frac{3}{4}$. Check: $\frac{3}{4} \div \frac{1}{3} = \frac{3}{4} \times 3 = \frac{9}{4} = 2\frac{1}{4}$. ✓

Chapter 2

Quiz 2: Integers and Their Opposites

1 $-\frac{7}{2}, -1.5, \frac{3}{4}, 2$

2 $<$

3 A

4 True

5 Opposite = $\frac{5}{8}$; $|- \frac{5}{8}| = \frac{5}{8}$

6 City A < City C < City B ($-15 < -8 < 42$)

7 Integers: $-2, -1, 0, 1, 2$; by $|n|$: -2 and 2 , then -1 and 1 , then 0

Explanations

1 Convert to decimals: $-\frac{7}{2} = -3.5$, -1.5 , $\frac{3}{4} = 0.75$, 2 . On the number line, left to right: $-3.5 < -1.5 < 0.75 < 2$. ✓

2 Convert $-\frac{2}{3}$ to a decimal: $-\frac{2}{3} \approx -0.667$. Compare: -0.667 is farther left on the number line than -0.5 . So $-\frac{2}{3} < -0.5$. For negatives, the one with the **larger** absolute value is **smaller**. ✓



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3 Convert all to decimals: $-1, -0.75, -0.25, 0.3, 0.5$. Check: $-1 < -0.75 < -0.25 < 0.3 < 0.5$ ✓. Choice C is greatest to least (reversed). Choice B and D have -1 in the wrong position.

4 $|-3| = 3$ and $|2| = 2$. Since $3 > 2$, the statement is true. Absolute value measures distance from 0, ignoring sign. -3 is farther from 0 than 2. ✓

5 The opposite of $-\frac{5}{8}$ is $\frac{5}{8}$ (same distance from 0, other side). $|\frac{5}{8}| = \frac{5}{8}$ (distance from 0 is always non-negative). Check: $-\frac{5}{8} + \frac{5}{8} = 0$. ✓

6 -15 is below sea level (lower than -8), and 42 is above sea level. On a number line: $-15 < -8 < 42$. Common mistake: thinking $-8 < -15$ because $8 < 15$. For negatives, the number with the larger absolute value is **less**. ✓

7 $-3 < n \leq 2$ means n is greater than -3 and at most 2. The integers are $-2, -1, 0, 1, 2$ (not -3 since $<$, not \leq). Absolute values: $|-2| = |2| = 2, |-1| = |1| = 1, |0| = 0$. Greatest to least: $2, 1, 0$. ✓



Well done checking your answers!

Keep practicing to strengthen your skills.



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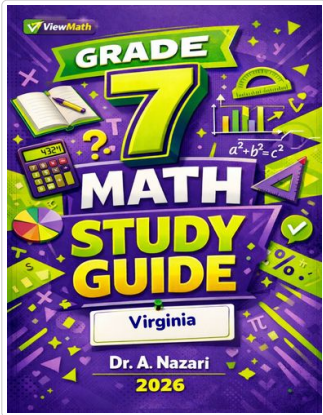


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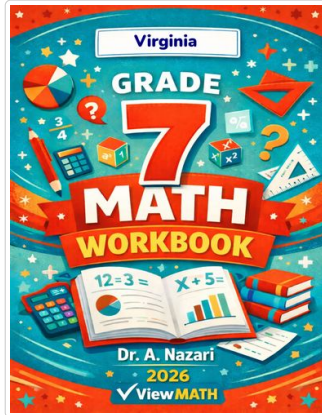
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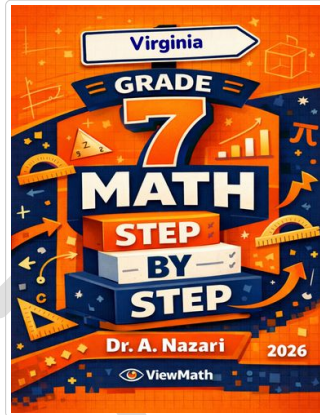
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Workbook



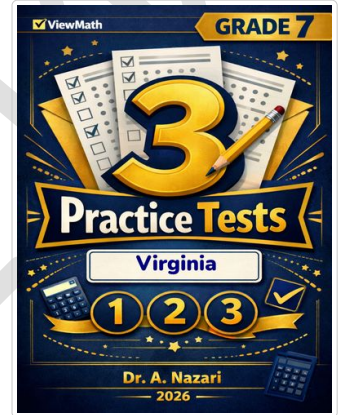
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Step-by-Step



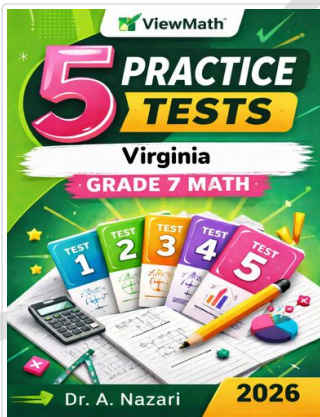
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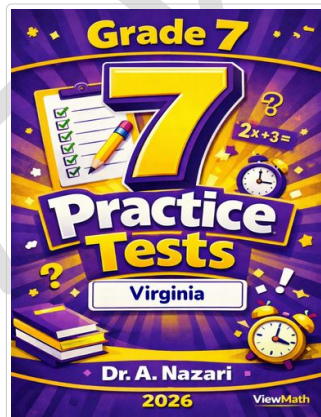
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5 Practice Tests



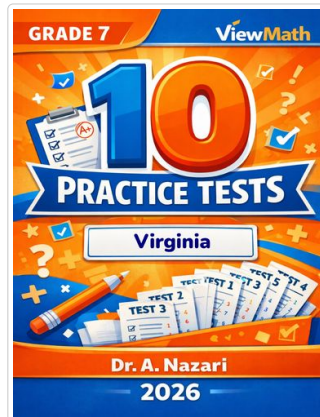
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7 Practice Tests



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10 Practice Tests



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