

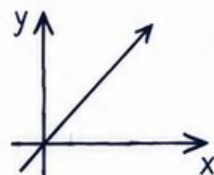
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Utah
RISEGRADE
7
MATH

PRACTICE TESTS

Standards Aligned
Problem Solving
For Comprehensive
Assessment Programs

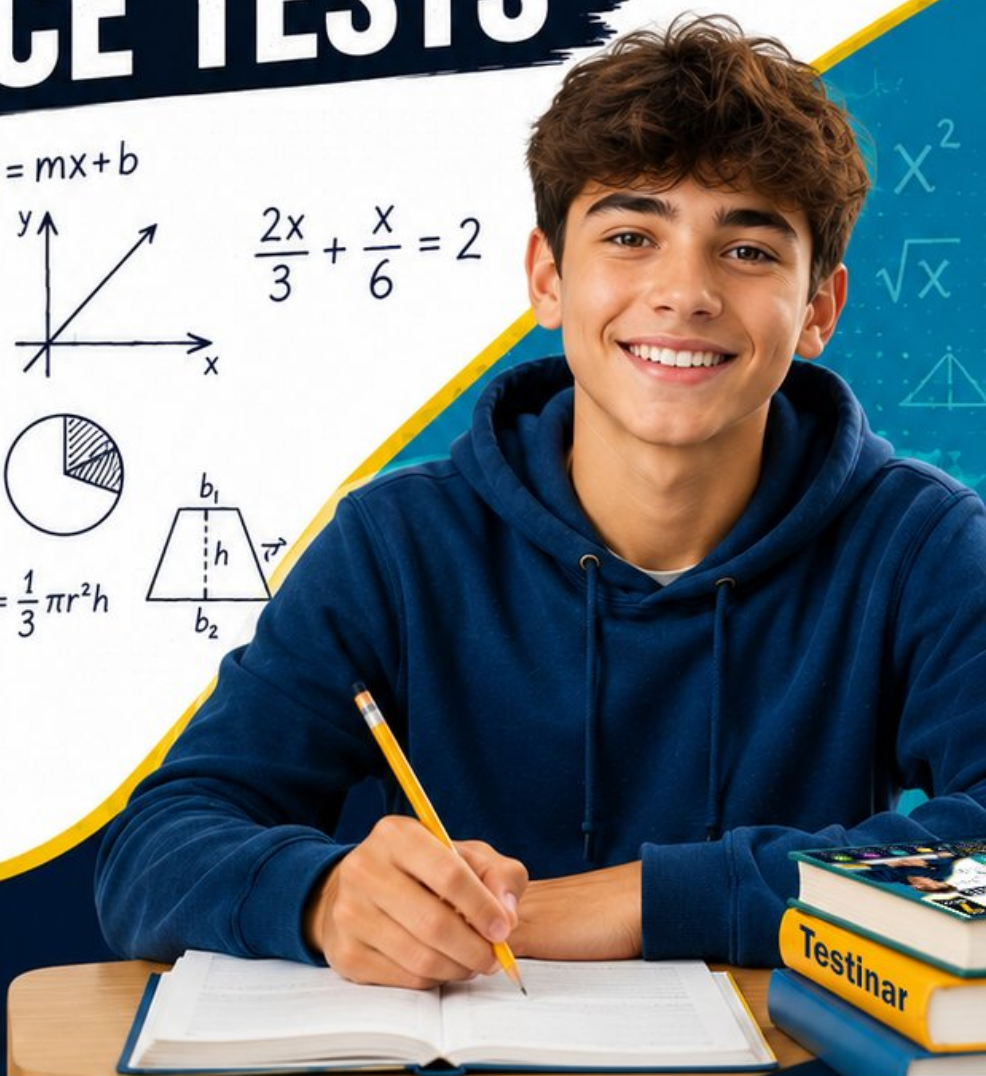
$$y = mx + b$$



$$\frac{2x}{3} + \frac{x}{6} = 2$$

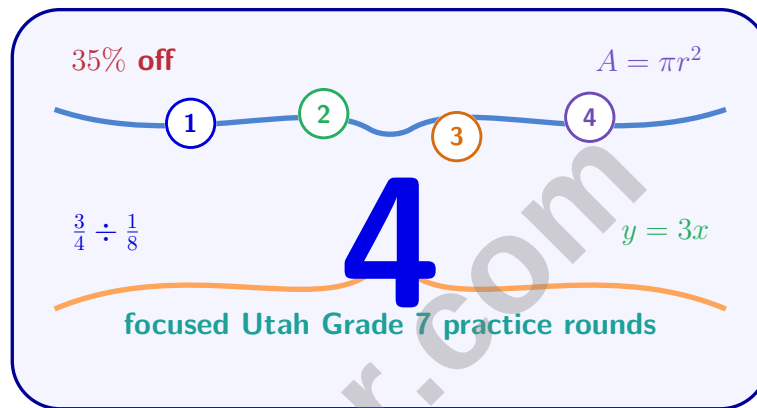


$$V = \frac{1}{3} \pi r^2 h$$

4 PRINTED
TESTS2 ONLINE
TESTSUSE THESE TWO
ADDITIONAL ONLINE
PRACTICE TESTSFOR EXTRA REVIEW AFTER
THE PRINTED TESTS
IN THIS BOOK.Build
ConfidenceStrengthen
Math SkillsDetailed Answers
& ExplanationsImprove Test
Performance

4 Utah RISE Grade 7 Math Practice Tests

Focused Utah Prep for Proportions, Geometry, Data, and More



Four complete 40-question Grade 7 RISE practice rounds with proportional relationships, percents, rational numbers, expressions, equations, geometry, statistics, probability, answer keys, and clear explanations for every item.

Jay Daie and Reza Nazari



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Welcome, Utah Grade 7 Problem Solver!

Four focused rounds for sharper RISE math thinking

This book gives you four full Grade 7 RISE math practice tests. Each round is built to help you notice structure, compare quantities, use proportional reasoning, handle rational numbers, and explain your thinking with care.

Your Utah Practice Promise

I will read every question carefully, choose a strategy that fits, write enough work to prove my answer, and use corrections as training for the next test.

Read

Model

Verify

How to Use This Book

A four-session plan for confident Grade 7 review

1. **Warm up with the review pages.** Notice the big ideas before starting the tests.
2. **Complete one test at a time.** Treat each 40-question round like a real practice session.
3. **Show your reasoning.** Jot a proportion, equation, diagram, number line, or quick estimate when it helps.
4. **Correct actively.** Rework missed items before reading the explanation.
5. **Choose the next target.** After each test, name one skill and one habit to improve.

Utah review rhythm: Work a test, score it, study your misses, then come back ready for the next round with one clear goal.



What Is Inside?

Four RISE tests, 160 questions, and a focused review path

Part	What You Will Practice
Tests 1–2	Proportional relationships, unit rates, percents, rational-number operations, and careful reading.
Tests 3–4	Expressions, equations, inequalities, scale drawings, geometry, data, probability, and multi-step problem solving.
Answer Pages	Compact keys and explanations that show why each answer works.

The tests are mixed on purpose. Grade 7 success means recognizing which idea is being tested even when the next question changes format.



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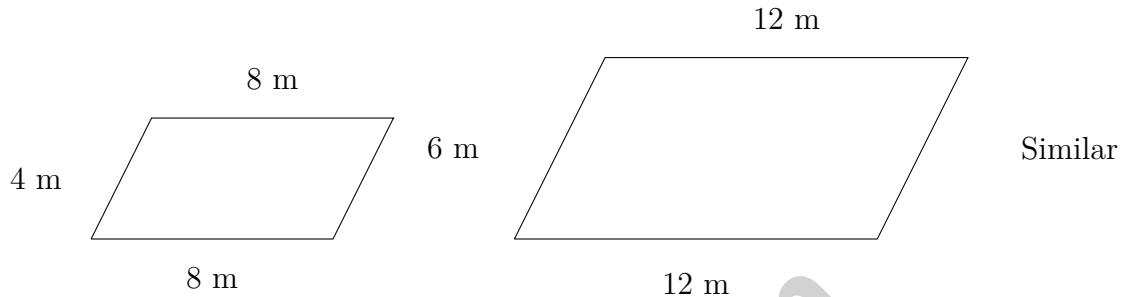
1) Solve: $2.5x + 1 = 6$

☐ A. $x = 1$

☐ B. $x = 2$

☐ C. $x = 3$

☐ D. $x = 4$



2)

The two parallelograms are similar. The smaller one has a base of 8 m and height of 4 m. The larger one has a base of 12 m. What is the scale factor?

☐ A. 0.67

☐ B. 1.2

☐ C. 1.5

☐ D. 2

3) A circular mirror has radius $\frac{1}{2}$ meter. What is its circumference? Use $\pi \approx 3.14$.

☐ A. 0.785 m

☐ B. 1.57 m

☐ C. 3.14 m

☐ D. 6.28 m

4) A cylinder has a surface area of 251.2 m^2 and a radius of 2 m. What is the height? Use $\pi \approx 3.14$.

☐ A. 8 m

☐ B. 10 m

☐ C. 12 m

☐ D. 15 m



- 5) A teacher recorded the number of minutes students spent on homework:

Class	Median	Range
Period 1	35 min	20 min
Period 2	35 min	60 min

Which class has more variable homework times?

- ☐ A. Period 1
 ☐ D. The data does not support comparison
- ☐ B. Period 2
- ☐ C. Both are equally variable
- 6) A bag contains 15 tokens: 9 green and 6 orange. Two students compute $P(\text{drawing green})$ differently: Student A: $\frac{9}{15} = \frac{3}{5}$. Student B: $\frac{9}{6} = \frac{3}{2}$. Who is correct?
- ☐ A. Both are correct.
 ☐ C. Only Student B is correct.
- ☐ B. Only Student A is correct.
 ☐ D. Neither is correct.
- 7) Two spinners are spun. Spinner 1 has sections A, B, C (equally likely). Spinner 2 has sections 1, 2 (equally likely). What is the probability of landing on B and 1?
- ☐ A. $\frac{1}{6}$
☐ C. $\frac{1}{3}$
- ☐ B. $\frac{1}{5}$
☐ D. $\frac{1}{2}$
- 8) A dot plot shows the distance (in kilometers) traveled by two cycling groups in one afternoon. Group 1: 10, 12, 12, 13, 13, 14 km; Group 2: 5, 8, 15, 18, 22, 25 km. Which group had a more predictable cycling distance?
- ☐ A. Group 1 (range 4 km, clustered 12–13)
 ☐ C. Both groups have the same predictability
- ☐ B. Group 2 (wider range, more adventure)
 ☐ D. Group 2 (higher average distance)



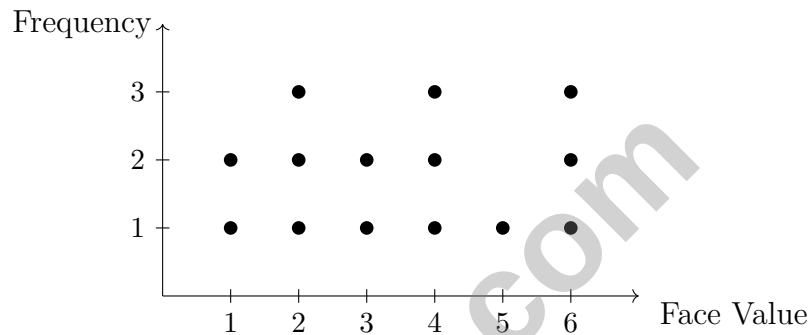
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- 9) A bag has 10 marbles: 4 red, 3 blue, and 3 green. If you draw one marble, what is the probability of drawing red OR blue?

☐ A. $\frac{7}{10}$
☐ B. $\frac{3}{10}$

☐ C. $\frac{4}{10}$
☐ D. $\frac{12}{100}$

- 10) An experiment involved rolling a number cube and recording results in a dot plot. The dot plot showed:



What is the experimental probability of rolling a 4?

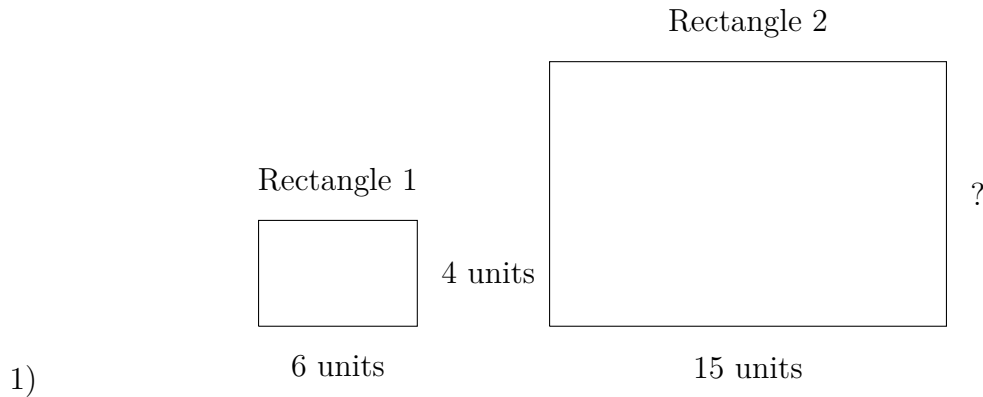
☐ A. $\frac{3}{14}$
☐ B. $\frac{1}{4}$

☐ C. $\frac{3}{16}$
☐ D. $\frac{1}{6}$

- 11) A data set has values: 12, 15, 15, 18, 21, 23, 24, 28. Which is the correct stem-and-leaf plot?

- ☐ A. Stem 1: 2, 5, 5, 8; Stem 2: 1, 3, 4, 8 ☐ C. Stem 1: 2, 5, 5, 8; Stem 2: 3, 4, 8, 1
☐ B. Stem 1: 1, 2, 5, 5; Stem 2: 1, 3, 4, 8 ☐ D. Stem 1: 1, 2, 3, 4; Stem 2: 1, 5, 5, 8





Two similar rectangles are shown. The first has dimensions 6 units by 4 units. The second has a length of 15 units. What is the width of the second rectangle?

- ☐ A. 8 units ☐ C. 10 units
☐ B. 9 units ☐ D. 12 units
- 2) Estimate $\sqrt{75}$ to the nearest whole number.
- ☐ A. 8 ☐ C. 10
☐ B. 9 ☐ D. 11
- 3) Which row correctly shows the sign rules for multiplication?

Operation	Example	Result
A. $(+) \times (+)$	5×3	8
B. $(-) \times (-)$	$(-4) \times (-2)$	-8
C. $(+) \times (-)$	$6 \times (-2)$	-12
D. $(-) \times (+)$	$(-7) \times 3$	21

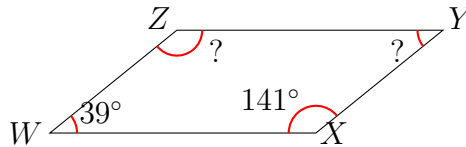
- ☐ A. Row A ☐ C. Row C
☐ B. Row B ☐ D. Row D



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- 4) A rectangular garden is 10 meters long and 5 meters wide. If you double all the dimensions, what is the new area?

- ☐ A. 100 m^2
☐ C. 200 m^2
☐ B. 150 m^2
☐ D. 400 m^2



5)

What is the sum of the two missing angle measures?

- ☐ A. 90°
☐ C. 180°
☐ B. 141°
☐ D. 219°

- 6) Which equation does NOT represent the additive inverse property?

- ☐ A. $-7 + 7 = 0$
☐ C. $-20 + 0 = -20$
☐ B. $35 + (-35) = 0$
☐ D. $100 + (-100) = 0$

- 7) What is the coefficient of y in the simplified form of $-8y + 12y - 3y$?

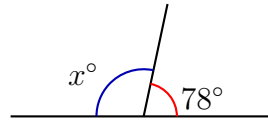
- ☐ A. -8
☐ C. 1
☐ B. y
☐ D. 12

- 8) A rectangular prism has length 8 m, width 5 m, and height 2 m. Find the surface area.

- ☐ A. 80 m^2
☐ C. 132 m^2
☐ B. 112 m^2
☐ D. 176 m^2



1)



Two lines intersect. One angle measures 78° . The angle adjacent to this angle is x . What is x ?

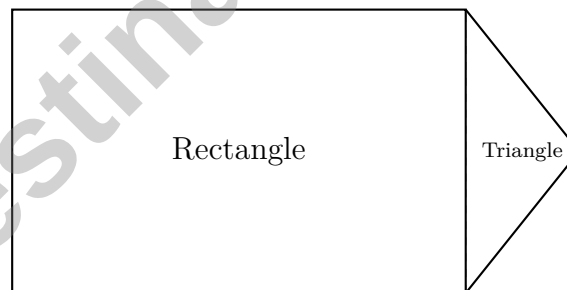
☐ A. 12°
☐ C. 102°
☐ B. 78°
☐ D. 180°

2) Two histograms show daily step counts for sedentary workers vs. active workers. Sedentary: concentrated at 3000–5000 steps. Active: concentrated at 10000–12000 steps. What is the most valid conclusion?

☐ A. Active workers get significantly more steps

☐ C. Sedentary workers should not be hired

☐ B. Both groups have identical activity levels

☐ D. Job type does not affect step count levels


3)

A composite figure consists of a rectangle ($8 \text{ units} \times 5 \text{ units}$) joined with a triangle (base 2 units, height 5 units). What is the total area?

☐ A. 40 sq units

☐ C. 50 sq units

☐ B. 45 sq units

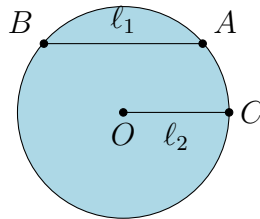
☐ D. 55 sq units


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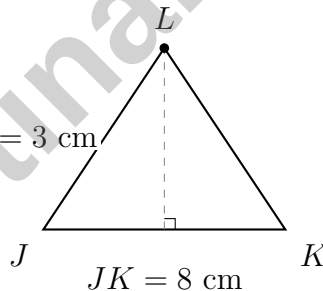
- 4) Two prisms have the same height of 10 cm. The first has a rectangular base 4 cm by 3 cm. The second has a triangular base with area 6 cm^2 . Which prism has a larger volume?

- ☐ A. The rectangular prism ☐ C. Both have the same volume
☐ B. The triangular prism ☐ D. Cannot be determined

- 5) In the circle below, which line segment is a chord?



- ☐ A. ℓ_1 (segment AB) ☐ C. Segment OA
☐ B. ℓ_2 (segment OC) ☐ D. None of the above



6)

Triangle JKL has base $JK = 8 \text{ cm}$ and perpendicular height $h = 3 \text{ cm}$. How many distinct triangles satisfy these conditions?

- ☐ A. 1 (unique) ☐ C. Infinitely many
☐ B. 2 (two possible positions for L) ☐ D. 0 (impossible)



Utah RISE Grade 7 Practice Test Answer Keys**How to use this section with a Grade 7 student:**

1. check the answer first and circle any item that needs another look
2. retry the problem with fresh work before reading the explanation
3. write one short lesson learned from each missed or guessed item

A strong review routine turns every correction into a sharper plan for the next Utah RISE practice test.



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Practice Test Answers and Explanations

Practice Test 1 Answers and Explanations

- 1) **Choice B is correct.** (7.EE.3-7.EE.4) Subtract 1: $2.5x = 5$. Divide by 2.5: $x = 2$.
- 2) **Choice C is correct.** (7.G.1-7.G.5) Scale factor = $\frac{12}{8} = 1.5$.
- 3) **Choice C is correct.** (7.G.4-7.G.6) $C = 2\pi r = 2 \times 3.14 \times 0.5 = 3.14$ m.
- 4) **Choice B is correct.** (7.G.4-7.G.6) $251.2 = 2(3.14)(4) + 2(3.14)(2)(h) \Rightarrow 251.2 = 25.12 + 12.56h \Rightarrow h = 10$ m.
- 5) **Choice B is correct.** (7.SP.1-7.SP.4) Period 2 has a range of 60 minutes, much larger than Period 1's range of 20 minutes, indicating more variability in homework times.
- 6) **Choice B is correct.** (7.SP.5-7.SP.8) Probability uses total outcomes in denominator: $\frac{9}{15} = \frac{3}{5}$. Student B used only orange tokens.
- 7) **Choice A is correct.** (7.SP.5-7.SP.8) Total outcomes: $3 \times 2 = 6$. Favorable outcome: B1 = 1 outcome. Probability: $\frac{1}{6}$.
- 8) **Choice A is correct.** (7.SP.3) Group 1's data clusters tightly around 12–13 km with a range of 4 km. Group 2 spreads from 5 to 25 km (range 20 km), making it unpredictable. Predictability correlates with small spread.
- 9) **Choice A is correct.** (7.SP.5-7.SP.8) Mutually exclusive: $P(\text{red}) + P(\text{blue}) = \frac{4}{10} + \frac{3}{10} = \frac{7}{10}$.
- 10) **Choice A is correct.** (7.SP.6) Counting dots: Face 1 has 2, Face 2 has 3, Face 3 has 2, Face 4 has 3, Face 5 has 1, Face 6 has 3. Total: $2 + 3 + 2 + 3 + 1 + 3 = 14$ rolls. Face 4 appeared 3 times. Experimental probability: $\frac{3}{14}$.
- 11) **Choice A is correct.** (7.SP.1-7.SP.4) Leaves must be listed in order and correspond to the tens digit (stem).
- 12) **Choice B is correct.** (7.G.4-7.G.6) Decompose into a trapezoid and a rectangle. Trapezoid: $\frac{1}{2}(5+7) \times 4 = \frac{1}{2} \times 12 \times 4 = 24$ cm². Rectangle: $7 \times 3 = 21$ cm². Add: $24 + 21 = 45$ cm².
- 13) **The correct answer is -27.** (7.NS.1-7.NS.3) Since $a = 27$, the opposite (additive inverse) is $-a = -27$. We can verify: $27 + (-27) = 0$.
- 14) **Choice B is correct.** (7.G.4-7.G.6) Base area = $\frac{1}{2} \times 10 \times 6 = 30$ in². Depth = $\frac{V}{B} = \frac{360}{30} = 12$ in.
- 15) **Choice B is correct.** (7.G.1-7.G.5) Two sides have the same length: $OM = MN = 5$ cm. An isosceles triangle has at least two congruent sides. Checking: $4^2 + 5^2 = 41 \neq 25$, so it is not a right triangle.
- 16) **Choice D is correct.** (7.SP.5-7.SP.8) The sun rising tomorrow is certain (probability = 1). The other events are uncertain.
- 17) **Choice B is correct.** (7.SP.1-7.SP.4) $\frac{45}{120} = \frac{x}{840}$. Reduce to $\frac{3}{8} = \frac{x}{840} \Rightarrow x = 315$.
- 18) **The correct answer is 2.** (7.NS.2) $(-2) \times 3 = -6$. Then $(-6) \times (-\frac{1}{3}) = \frac{6}{3} = 2$. Two negatives give positive.
- 19) **Choice D is correct.** (7.NS.1-7.NS.3) Step 1 error: When subtracting a negative, flip the sign of the subtrahend (the -5 becomes +5), so the rule is $-3 - (-5) = -3 + 5$. Step 2 error follows from Step 1. The correct answer is 2. This tests the most common student error.
- 20) **The correct answer is A,D.** (7.RP.1-7.RP.3) A and D are unit rates because each gives a price per single unit of weight. Option B is a distance, and option C is a total count.
- 21) **Choice C is correct.** (7.RP.1-7.RP.3) Scale 1 : 4 means the new dimensions are $\frac{1}{4}$ of the original: $24 \div 4 = 6$ inches; $36 \div 4 = 9$ inches.
- 22) **Choice D is correct.** (7.RP.3) Widget: discount = $(20 - 16)/20 = 4/20 = 0.20 = 20\%$. Gadget: discount = $(30 - 24)/30 = 6/30 = 0.20 = 20\%$. Both are 20% off.
- 23) **The correct answer is 13.** (7.NS.1-7.NS.3) Since the area is 169, the side length is $\sqrt{169} = 13$ units.
- 24) **Choice B is correct.** (7.SP.1-7.SP.4) 20% of 180 = $0.20 \times 180 = 36$ students.
- 25) **Choice D is correct.** (7.RP.1-7.RP.3) Unit rate: $\frac{5/8}{1/12} = \frac{5}{8} \times 12 = \frac{60}{8} = \frac{15}{2} = 7.5$ tons/day. In 2 days: $\frac{15}{2} \times 2 = 15$ tons.
- 26) **Choice D is correct.** (7.RP.1-7.RP.3) Proportional relationships pass through origin, so y -intercept is always 0. Slope can be any nonzero number.
- 27) **Choice D is correct.** (7.RP.1-7.RP.3) The discount price is $\frac{3}{4}$ times the original price: $d = \frac{3}{4}o$.
- 28) **Choice D is correct.** (7.RP.1-7.RP.3) The unit rate is $6 \div 4 = 1.5$. So $y = 1.5x$. At $x = 8$, $y = 1.5 \times 8 = 12$ cups.



You Know More Than You Think

Hi, Skilled Learner!

◇ After working through Grade 7 practice, you now have more tools than you may realize: models, formulas, graphs, equations, and reasoning habits. ◇

★ **Remember this:** The next step is learning when to use each tool. That comes from practice, review, and the courage to try a method even when you are unsure. This version gave you 4 opportunities to rehearse test-day habits. ★

Tools You Can Use

- **Models:** Make relationships visible.
- **Equations:** Represent unknowns clearly.
- **Graphs:** Show change and location.
- **Formulas:** Organize measurement problems.

Grade 7 test-day tip: Before solving, name the tool you plan to use. That small choice makes your work more intentional.

If you want to share something or ask a question, please email me at jay@testinar.com.

Jay Daie

Your Skill-Building Coach

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