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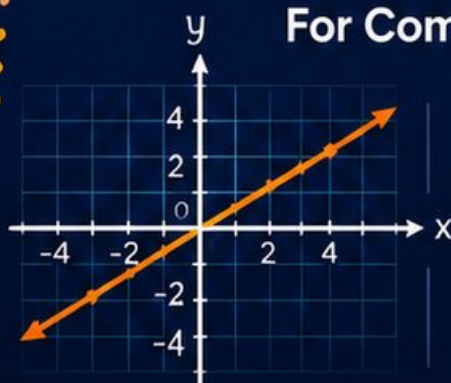
Texas STAAR

GRADE 8

MATH

PRACTICE TESTS

Standards Aligned Problem Solving
For Comprehensive Assessment Programs



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



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



8

 PRINTED
TESTS

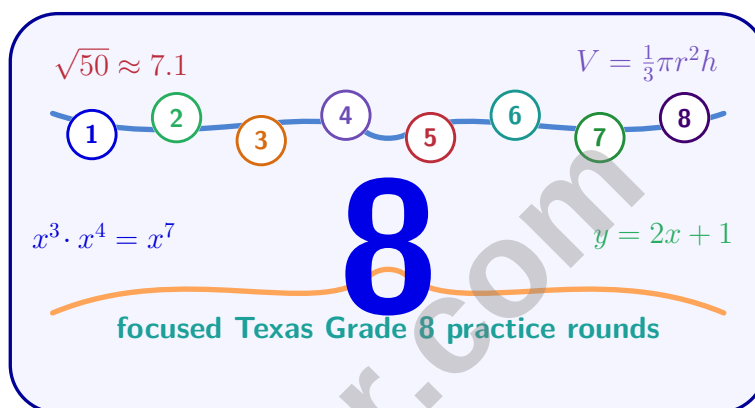
2

 ONLINE
TESTS

Use these **two additional** online practice tests
for extra review after the printed tests in this book.

8 Texas STAAR Grade 8 Math Practice Tests

Texas Practice for Grade 8 Functions, Geometry, and Data Reasoning



Eight complete 40-question Grade 8 STAAR practice rounds with real numbers, exponents, scientific notation, equations, functions, transformations, geometry, data analysis, probability, answer keys, and clear explanations for every item.

Jay Daie and Reza Nazari



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Welcome, Texas Grade 8 Problem Solver!

Eight focused rounds for sharper STAAR math thinking

This book gives you eight full Grade 8 STAAR math practice tests. Each round is built to help you recognize structure, reason with real numbers and exponents, analyze linear relationships, connect equations with graphs, and explain your thinking with care.

Your Texas 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

An eight-session plan for confident Grade 8 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 an exponent rule, equation, graph, transformation, diagram, 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.

Texas 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?

Eight STAAR tests, 320 questions, and a complete review path

Part	What You Will Practice
Tests 1–3	Real and irrational numbers, integer exponents, scientific notation, equations, and careful reading.
Tests 4–6	Slope, systems of equations, functions, inequalities, transformations, congruence, and similarity.
Tests 7–8	Pythagorean reasoning, volume, data analysis, linear models, probability, mixed review, and stamina.
Answer Pages	Compact keys and explanations that show why each answer works.

The tests are mixed on purpose. Grade 8 success means recognizing which idea is being tested even when the next question changes format.

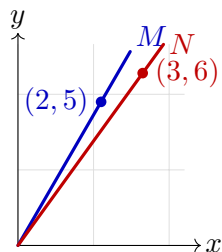


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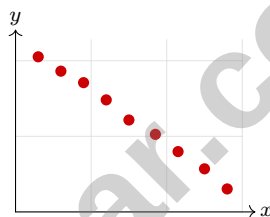
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- 1) Two lines are shown on the same graph. Line M passes through $(0, 0)$ and $(2, 5)$. Line N passes through $(0, 0)$ and $(3, 6)$. Which statement is true?



- ☐ A. Line M is steeper
☐ B. Line N is steeper
☐ C. Both lines have the same steepness
☐ D. Cannot be determined from the information



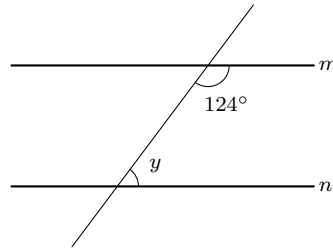
2)

A negative slope on a scatter plot indicates:

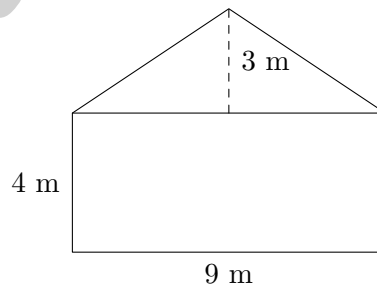
- ☐ A. There is no relationship between the variables
☐ B. The line is horizontal
☐ C. As x increases, y increases on average
☐ D. As x increases, y decreases on average



- 3) Lines m and n are parallel, cut by a transversal. If one co-interior angle is 124° , what is the other co-interior angle?



- ☐ A. 56° ☐ C. 124°
☐ B. 62° ☐ D. 180°
- 4) A student found the volume of a pyramid with base area 50 ft^2 and height 12 ft by calculating $V = 50 \times 12 = 600 \text{ ft}^3$. What is the correct volume?
- ☐ A. 100 ft^3 ☐ C. 300 ft^3
☐ B. 200 ft^3 ☐ D. 600 ft^3
- 5) A student mistakenly calculated the area of a composite figure (rectangle 9 m by 4 m plus triangle base 9 m, height 3 m) by adding $9 + 4 + \frac{1}{2} \times 9 \times 3 = 26.5$ instead of computing the rectangle's area. What is the correct total area?



- ☐ A. 49.5 m^2 ☐ C. 54 m^2
☐ B. 49.5 units ☐ D. 58.5 m^2



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6) A cinema tracks 240 moviegoers:

	Action	Comedy	Total
Weekday	72	48	120
Weekend	84	36	120
Total	156	84	240

Among action-movie viewers, what is the relative frequency of weekday watchers?

- ☐ A. ≈ 0.30
☐ C. ≈ 0.50
☐ B. ≈ 0.46
☐ D. ≈ 0.60

7) A manufacturing plant tracks widget defects per day: $\{0, 1, 1, 2, 6\}$. Mean = 2. What does the MAD tell us?

- ☐ A. The mode number of defects
 ☐ C. That 6 defects is an outlier
☐ B. The typical deviation from the average number of defects
 ☐ D. The maximum possible defects

8) A license plate has 2 letters followed by 3 digits. Letters can be any of A through Z, and digits can be 0 through 9. How many possible license plates are there?

- ☐ A. $26^2 \times 10^3 = 676,000$
☐ C. $26 \times 10 = 260$
☐ B. $26 + 26 + 10 + 10 + 10 = 82$
☐ D. $(26 + 10)^5 = 60,466,176$



9)

Which value belongs at the red mark on the number line?

- ☐ A. $\sqrt{9}$
☐ C. $\sqrt{16}$
☐ B. $\sqrt{20}$
☐ D. $\sqrt{12}$



1) If $x^2 = 144$, what is the positive value of x ?

☐ A. 11

☐ C. 13

☐ B. 14

☐ D. 12

2) Does the relation $\{(5, 10), (5, 15), (6, 12)\}$ represent a function?

☐ A. Yes, because all y -values are positive.

☐ C. Yes, because there are three ordered pairs.

☐ B. No, because 5 is paired with two different outputs.

☐ D. No, because 10 and 15 are both outputs.

3) A line passes through $(0.5, 3)$ and $(2, 9)$. What is the slope?

☐ A. 2

☐ C. 6

☐ B. 4

☐ D. $\frac{1}{4}$

4) Which transformation rule represents a reflection across the y -axis?

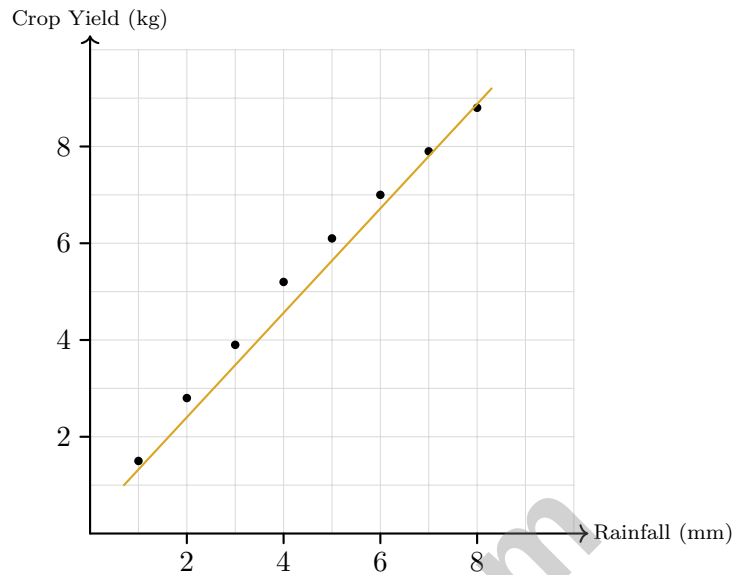
☐ A. $(x, y) \rightarrow (x, -y)$

☐ C. $(x, y) \rightarrow (y, x)$

☐ B. $(x, y) \rightarrow (-x, y)$

☐ D. $(x, y) \rightarrow (-x, -y)$





5)

In a study of rainfall and crop yield, the trend line shows a positive relationship. How much would yield increase for every 1 mm increase in rainfall?

- ☐ A. Between 1 and 2 kg ☐ C. Between 2 and 3 kg
☐ B. Less than 1 kg ☐ D. More than 3 kg

6) Which property is preserved under all three rigid transformations (translation, reflection, and rotation)?

- ☐ A. Position on the coordinate plane ☐ C. Length of sides
☐ B. Orientation (clockwise vs. counterclockwise) ☐ D. Size relative to other figures



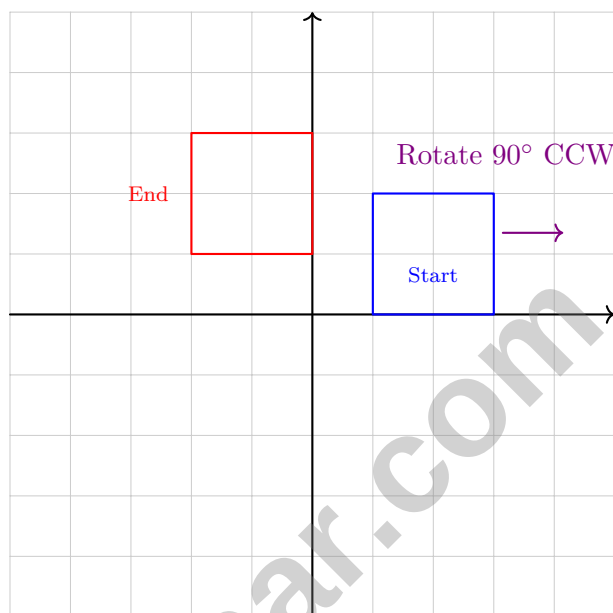
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1) Which is the best estimate of $\sqrt{30}$?

☐ A. 4.5

☐ C. 6.0

☐ B. 15.0

☐ D. 5.5


2)

After the rotation shown, which of the original vertices maps to the new vertex at $(-2, 3)$?

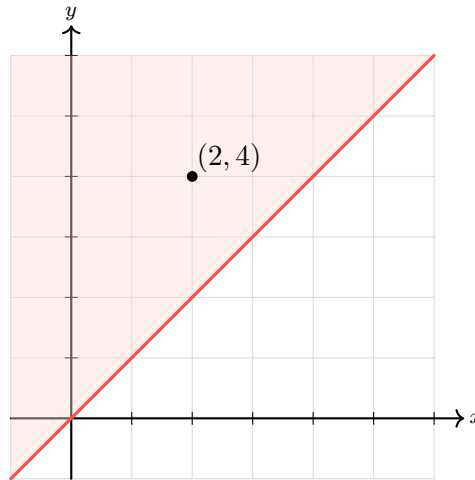
☐ A. $(1, 0)$
☐ C. $(3, 2)$
☐ B. $(3, 0)$
☐ D. $(1, 2)$

3) If $x^2 = 225$, what are all possible values of x ?

☐ A. 15 only

☐ C. 15 or -15
☐ B. -15 only

☐ D. 7.5 or -7.5

4)

The test point $(2, 4)$ is marked in the shaded region. Which inequality does this represent?

☐ A. $y > x$

☐ C. $y \geq x$

☐ B. $y < x$

☐ D. $y \leq x$

5) A pizza restaurant charges \$12 for a large pizza and \$1.50 per topping. Is the total cost a function of the number of toppings?

☐ A. No, because the base price is fixed.☐ D. Yes, only if the customer is satisfied with the pizza.☐ B. No, because toppings are not free.☐ C. Yes, each number of toppings gives exactly one total cost.

6) Function through $(1, 3)$, $(2, 5)$, $(3, 7)$. Equation is?

☐ A. $y = 2x + 1$

☐ C. $y = 3x$

☐ B. $y = x + 2$

☐ D. $y = 2x - 1$



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Texas STAAR Grade 8 Practice Test Answer Keys**How to use this section with a Grade 8 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 Texas STAAR practice test.



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Practice Test Answers and Explanations

Practice Test 1 Answers and Explanations

- 1) **Choice A is correct.** **(8.4(C))** Line M : slope $= \frac{5}{2} = 2.5$. Line N : slope $= \frac{6}{3} = 2$. Since $2.5 > 2$, line M is steeper.
- 2) **Choice D is correct.** **(8.5(D))** A negative slope means the line tilts downward from left to right. This represents a negative association: as one variable increases, the other tends to decrease.
- 3) **Choice A is correct.** **(8.8(D))** Co-interior angles (same-side interior angles) are supplementary: $124 + y = 180$, so $y = 56^\circ$.
- 4) **Choice B is correct.** **(8.6(A))** The student forgot the $\frac{1}{3}$ factor. Correct: $V = \frac{1}{3} \times 50 \times 12 = 200 \text{ ft}^3$.
- 5) **Choice A is correct.** **(8.10(D))** Rectangle area is $9 \times 4 = 36 \text{ m}^2$. Triangle area is $\frac{1}{2} \times 9 \times 3 = 13.5 \text{ m}^2$. The total area is $36 + 13.5 = 49.5 \text{ m}^2$.
- 6) **Choice B is correct.** **(8.5(C))** Column-conditional frequency among action viewers (156 total): $\frac{72}{156} \approx 0.46$.
- 7) **Choice B is correct.** **(8.11(B))** MAD measures average distance from the mean. Deviations: $|0 - 2| = 2$, $|1 - 2| = 1$ (twice), $|2 - 2| = 0$, $|6 - 2| = 4$. Sum = 8. MAD $= 8/5 = 1.6$, showing typical spread.
- 8) **Choice A is correct.** **(8.8(C))** Each letter has 26 choices and each digit has 10 choices. Multiply: $26 \times 26 \times 10 \times 10 \times 10 = 676,000$.
- 9) **Choice D is correct.** **(8.2(B))** The red mark is between 3 and 4. Since $3^2 = 9$ and $4^2 = 16$: $\sqrt{9} = 3$, $\sqrt{16} = 4$. Only $\sqrt{12}$ satisfies $9 < 12 < 16$, placing it between 3 and 4.
- 10) **Choice C is correct.** **(8.2(A))** $\sqrt{50}$ is irrational because 50 is not a perfect square. The other values are rational: $\sqrt{49} = 7$, $\frac{7}{8} = 0.875$ (terminating decimal), and 2.5 is a terminating decimal.
- 11) **Choice D is correct.** **(8.2(B))** $100x - 10x = 37.\overline{7} - 3.\overline{7} = 34$. The repeating parts cancel, leaving $90x = 34$.
- 12) **Choice D is correct.** **(8.2(D))** $\sqrt{36} = 6$ exactly (rational). All others are irrational because 17, 19, 21 are not perfect squares.
- 13) **Choice D is correct.** **(8.2(C))** Move the decimal 8 places left to get 1.2; the exponent is 8.
- 14) **Choice D is correct.** **(8.5(B))** Using $y = mx + b$: $3 = -1(1) + b$, so $3 = -1 + b$, thus $b = 4$.
- 15) **Choice D is correct.** **(8.8(A))** Subtract $3x$ and add 4: $5x = 15$. Divide by 5: $x = 3$.
- 16) **Choice A is correct.** **(8.8(A))** The open circle at 2 means 2 is not included. The ray points left to smaller values, so $x < 2$.
- 17) **The correct answer is 14.** **(8.10(B))** Since the trapezoids are congruent and $QR = 8 \text{ cm}$ corresponds to one of the parallel sides of MNOP, the other parallel side of QRST must also be 14 cm.
- 18) **Choice D is correct.** **(8.8(D))** The sum for a quadrilateral is $(4 - 2) \times 180 = 360^\circ$. Each angle of a square is $\frac{360}{4} = 90^\circ$.
- 19) **Choice D is correct.** **(8.12(A))** During promotional 0% APR, no interest accrues. Amount owed remains \$800 after 12 months.
- 20) **Choice D is correct.** **(8.2(A))** First apply quotient rule: $\frac{m^8}{m^5} = m^3$. Then multiply: $m^3 \cdot m^2 = m^{3+2} = m^5$.
- 21) **Choice D is correct.** **(8.2(B))** If the area is 169 square inches, then $s^2 = 169$, so $s = \sqrt{169} = 13$ inches.
- 22) **The correct answer is B,E.** **(8.5(B))** Option B is correct because the constant term 35 is the fixed monthly cost. Option E is correct because at $t = 0$, $C = 0.10(0) + 35 = 35$. The slope is 0.10, so the cost per text is \$0.10, not \$0.35.
- 23) **Choice D is correct.** **(8.2(C))** $4 \times 5 = 20$ and $10^{3+2} = 10^5$, so the arithmetic is correct. However, 20×10^5 violates the standard form requirement that the coefficient be between 1 and 10. Proper form: 2×10^6 .
- 24) **The correct answer is 50.** **(8.10(C))** Original perimeter: $2(6 + 4) = 20$. Dilated perimeter: $20 \times 2.5 = 50$.
- 25) **Choice C is correct.** **(8.4(B))** $k = \frac{2}{8} = \frac{1}{4} = 0.25$.
- 26) **Choice C is correct.** **(8.5(F))** Simplify the first equation by dividing by 3: $x - 2y = 3$. Multiply the second by -1 : $x - 2y = 3$. They are the same equation, so infinitely many solutions.



A Note for a Careful Thinker

Hi, Careful Thinker!

◇ This wide-ranging book gave you eight serious Grade 8 practice tests, so you had repeated chances to build accuracy, pacing, and confidence. This book gave you room to practice the kind of thinking eighth graders need: modeling linear relationships, solving systems, connecting algebra and geometry, and interpreting data. ◇

★ **Remember this:** The goal was never just to finish pages. The goal was to become the kind of student who knows how to begin, how to adjust, and how to check. ★

Your Careful-Thinking Toolkit

- **Read Twice:** First for the story, second for the math.
- **Label Values:** Give each number a job.
- **Check Signs:** Negatives and inequalities deserve attention.
- **Use Evidence:** Let the work prove the answer.

Grade 8 test-day tip: On test day, underline the question before solving. It keeps your answer aimed at the right target.

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

Jay Daie

Your Math Practice Coach

PRACTICE TODAY, SUCCEED TOMORROW!

Give your child the confidence and skills they need with **8 full-length Grade 8** Math practice tests that mirror real test formats and cover all key math standards. Perfect for building skills, strengthening problem-solving abilities, and achieving success on test day!

WHAT'S INSIDE?



STANDARDS-ALIGNED PRACTICE

Questions designed to cover essential Grade 8 math standards.



VARIETY OF QUESTION TYPES

Multiple-choice, short answer, and more to build well-rounded skills.



REAL-WORLD APPLICATIONS

Engaging problems that connect math to everyday life.



STEP-BY-STEP PROGRESS

Track improvement and build confidence with every test.



BUILD SKILLS & BOOST CONFIDENCE

Strengthen understanding and feel prepared for test day.



COVERS ALL ESSENTIAL TOPICS

- ✓ The Number System
- ✓ Expressions & Equations
- ✓ Ratios & Proportional Relationships
- ✓ Linear Equations
- ✓ Functions
- ✓ Geometry
- ✓ Measurement & Data
- ✓ Statistics & Probability
- ✓ Pythagorean Theorem
- ✓ Volume & Surface Area
- ✓ Transformations
- ✓ Inequalities
- ✓ Data Analysis & Graphing
- ✓ And More!



2 EXTRA ONLINE PRACTICE TESTS INCLUDED!

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More Practice. More Confidence.
Better Results.