

10 Texas STAAR

GRADE
8
MATH

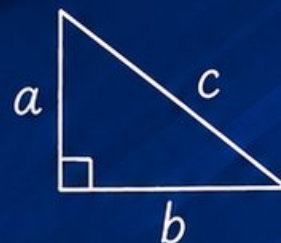
PRACTICE TESTS

Standards Aligned Problem Solving
For Comprehensive Assessment Programs

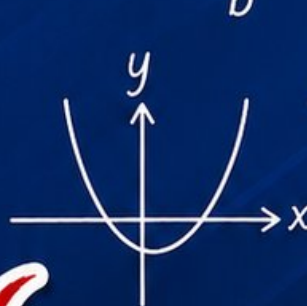
10 PRINTED
TESTS 

2 ONLINE
TESTS 

- ✓ Build Confidence
- ✓ Master Key Math Skills
- ✓ Answer Explanations for Every Question
- ✓ Test-Taking Strategies That Work



$$y = mx + b$$



$$3x - 7 = 2(x + 5)$$
$$x = 17$$

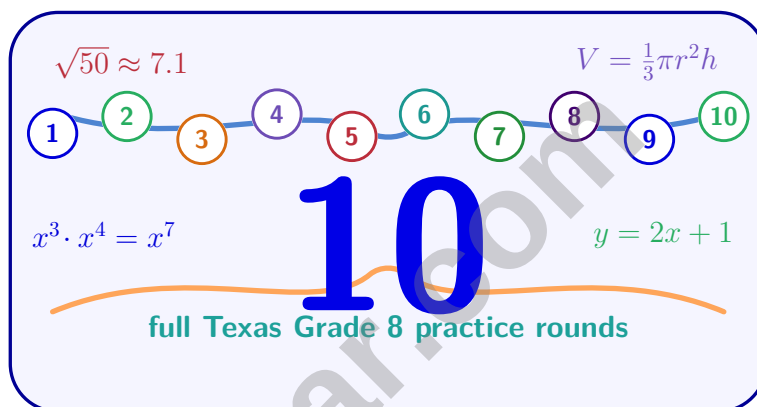


USE THESE TWO
**ADDITIONAL ONLINE
PRACTICE TESTS**

FOR EXTRA REVIEW AFTER
THE PRINTED TESTS
IN THIS BOOK.

10 Texas STAAR Grade 8 Math Practice Tests

Texas Grade 8 STAAR Practice for wide-ranging practice in rates, scientific notation, rational operations, algebra, geometry, and probability



Ten complete 40-question Grade 8 STAAR practice rounds with linear relationships, scientific notation, real numbers, equations, functions, 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!

Ten focused rounds for sharper Texas STAAR math thinking

This book gives you ten full Grade 8 STAAR math practice tests. Each round is built to help you notice structure, compare quantities, use linear reasoning, handle real numbers, and explain your thinking with care.

Grade 8 standards focus: This page supports **Surface Area of Prisms, Cylinders, and Pyramids** (8.7(B)): Use previous knowledge of surface area to make connections to the formulas for lateral and total surface area. Another recurring target is **Mean Absolute Deviation** (8.11(B)): Determine the mean absolute deviation and use this quantity as a measure of the average distance data are from the mean.

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

A ten-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 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.

Grade 8 standards focus: Keep the routine connected to **Using a Linear Model** (8.5(D)): Use the equation of a linear model to solve problems in context. The same routine helps with **Composite Figures: Area and Perimeter** (8.10(D)): model the effect on linear and area measurements of dilated two-dimensional shapes.

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?

Ten Texas STAAR tests, 400 questions, and a complete review path

Part	What You Will Practice
Tests 1–3	Linear relationships, integer exponents, scientific notation, real-number reasoning, and careful reading.
Tests 4–6	Expressions, equations, inequalities, transformations, geometry, and multi-step problem solving.
Tests 7–9	Data analysis, probability, mixed review, stamina, and choosing efficient strategies.
Test 10	A final Texas round to show growth across the whole book.
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.

Grade 8 standards focus: Use these habits while practicing **Multiplying Linear Expressions and Factoring** (8.10(D)): model the effect on linear and area measurements of dilated two-dimensional shapes. You will also meet **Turning Repeating Decimals into Fractions** (8.2(B)): Approximate the value of an irrational number, including π and square roots of numbers less than 225, and locate that rational number approximation on a number line.



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Table of Contents

★ Practice Test 1	_____	16
★ Practice Test 2	_____	33
★ Practice Test 3	_____	49
★ Practice Test 4	_____	64
★ Practice Test 5	_____	81
★ Practice Test 6	_____	97
★ Practice Test 7	_____	111
★ Practice Test 8	_____	126
★ Practice Test 9	_____	141
★ Practice Test 10	_____	155
Practice Test Answer Keys	_____	171
Practice Test Answers and Explanations	_____	177

1) If $g(x) = 5x - 3$ and $g(x) = 12$, what is x ?

☐ A. 3

☐ C. 4

☐ B. 2

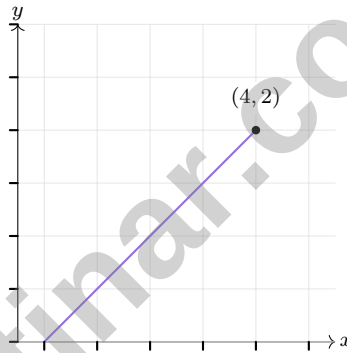
☐ D. 15

2) A student calculates the surface area of a rectangular prism with dimensions 4 m $\times$ 3 m $\times$ 2 m as $SA = 4 \times 3 + 4 \times 2 + 3 \times 2 = 12 + 8 + 6 = 26 \text{ m}^2$. What is the student's error?

☐ A. Forgot to multiply by 2

☐ D. Added instead of multiplied all terms

☐ B. Calculated volume instead

☐ C. Used the wrong formula


3)

Using the linear model $y = 2.5x - 8$, find the predicted value of y when $x = 4$.

☐ A. 10

☐ C. 4

☐ B. 3

☐ D. 2

4) A borrower needs to repay \$1,000. She has time but limited monthly cash flow. Comparing the plans, which choice represents the BEST overall financial decision (lowest total cost + manageable payments)?

☐ A. \$50/month for 24 months (total \$1,200; low monthly cost)

☐ C. \$125/month for 8 months (total \$1,000; high monthly cost)

☐ B. \$100/month for 12 months (total \$1,200; medium monthly cost)

☐ D. \$83/month for 18 months (total \$1,494; expensive overall)


5) Multiply: $(x + 3)(x - 5)$

☐ A. $x^2 - 15$

☐ C. $x^2 - 2x - 15$

☐ B. $x^2 + 3x - 5$

☐ D. $x^2 + 8x - 15$

6) What is $\sqrt{484}$?

7) The boundary line is $3x + 2y = 12$. If the origin $(0, 0)$ is in the solution region and the boundary is included, what is the inequality?

☐ A. $3x + 2y \leq 12$

☐ C. $3x + 2y < 12$

☐ B. $3x + 2y \geq 12$

☐ D. $3x + 2y > 12$

8) A math teacher says: “A function is when you input a number and always get the same output.” Is this definition correct?

☐ A. Yes, this is a complete definition.

that different inputs produce the same output.

☐ B. No, because constant functions like $y = 5$ are not functions.

☐ D. Yes, as long as the input is positive.

☐ C. No, a function only requires that each input has exactly one output, not

9) Function $f(x) = \frac{3}{4}x + 2$ and g shown in table: $(0, 3)$, $(4, 5)$, $(8, 7)$. Which has steeper slope?

x	0	4	8
$g(x)$	3	5	7

☐ A. $f(x)$ is steeper

☐ C. Equal slopes

☐ B. $g(x)$ is steeper

☐ D. Cannot compare


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10) Which table represents a linear function?

☐ A.

x	y
1	2
2	4
3	8

☐ B.

x	y
1	5
2	8
3	11

☐ C.

x	y
1	1
2	3
3	6

☐ D.

x	y
1	2
2	5
3	10

11) A right triangle has legs of 11 and 60. What is the hypotenuse?

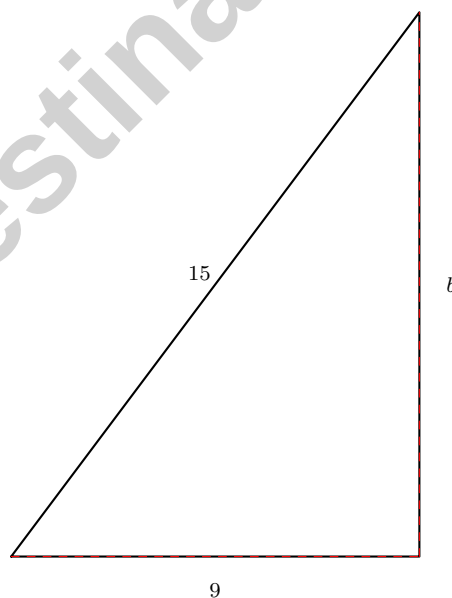
☐ A. 49

☐ C. 71

☐ B. 61

☐ D. 121

12) A right triangle has a hypotenuse of 15 units and one leg of 9 units. Which equation finds the other leg b ?



☐ A. $15^2 = 9^2 + b^2$

☐ C. $b = 15 - 9$

☐ B. $9^2 = 15^2 + b^2$

☐ D. $b^2 = 9 + 15$



1) What is $\frac{3.6 \times 10^6}{1.2 \times 10^2}$?

☐ A. 3×10^8

☐ C. 0.3×10^4

☐ B. 2.4×10^4

☐ D. 3×10^4

2) A residual is the vertical distance between a data point and the trend line. Which set of residuals indicates the BEST fit?

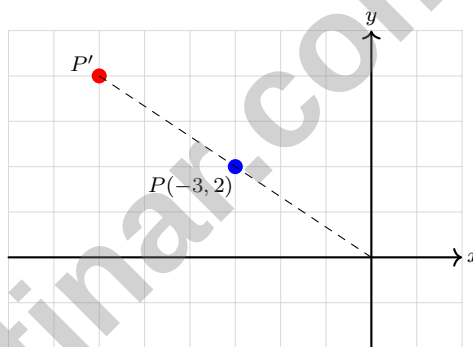
☐ A. Residuals of 15, -12, 18, -14, 20

☐ C. Residuals of -20, -18, 22, 25, 19

☐ B. Residuals of -1, 0, 1, 0, -1

☐ D. Residuals of -5, -4, 3, 4, 2

3) Point $P(-3, 2)$ is dilated by scale factor 2 from the origin. What are the coordinates of P' ?



☐ A. $(-6, 4)$

☐ C. $(6, -4)$

☐ B. $(-3, 4)$

☐ D. $(-6, -4)$

4) The table below shows values of function f . What is $f(2)$?

x	0	1	2	3
$f(x)$	5	7	9	11

☐ A. 7

☐ C. 11

☐ B. 9

☐ D. 5



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5) The product of two irrational numbers is:

- ☐ A. Always rational
☐ B. Always irrational
☐ C. Could be either rational or irrational
☐ D. Always negative

6) A repeating decimal $0.\overline{d_1d_2d_3}$ (3 digits) will have which denominator when fully simplified?

- ☐ A. Always exactly 999 (before simplification).
☐ B. Always exactly 1000.
☐ C. A factor of 999 (could be 27, 37, 111, 333, 999, ...).
☐ D. A factor of 1000 (could be 8, 125, 200, ...).

7) Which statement about $\sqrt{2} + 1$ is correct?

- ☐ A. It is rational
☐ B. It is between 0 and 1
☐ C. It equals $\sqrt{3}$
☐ D. It is irrational

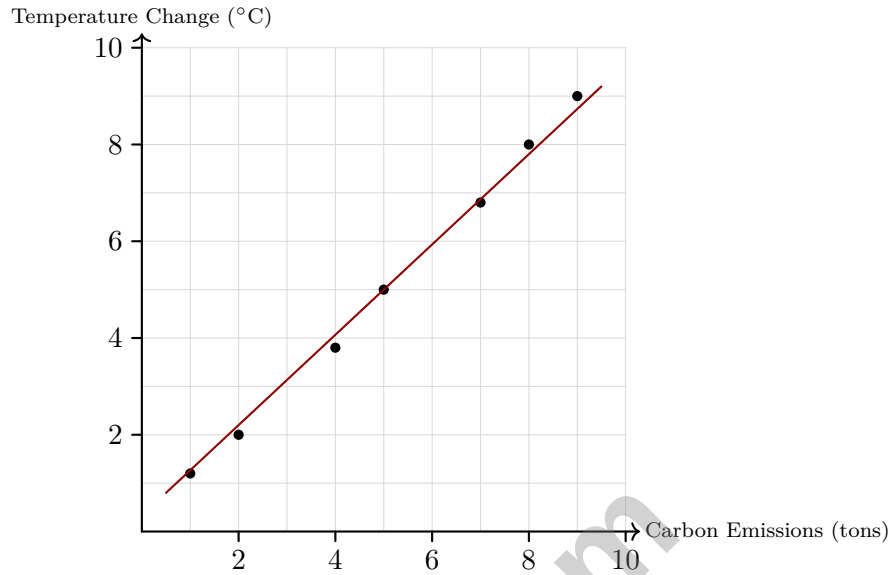
8) Which is the best estimate of $\sqrt{2}$?

- ☐ A. 1.2
☐ B. 2.8
☐ C. 2.0
☐ D. 1.4

9) A student incorrectly wrote 56,200 in scientific notation as 56.2×10^3 . What is the correct form?

- ☐ A. 562×10^2
☐ B. 5.62×10^3
☐ C. 56.2×10^3
☐ D. 5.62×10^4





1)

A scientist studies the relationship between carbon emissions and temperature change. The trend line shows a strong positive relationship. Which is the best interpretation?

- ☐ A. As carbon emissions increase, temperature tends to increase on average
- ☐ B. Temperature change has no relationship to emissions
- ☐ C. Higher temperatures cause carbon emissions
- ☐ D. The relationship is random

2) What is 10^{-2} ?

- ☐ A. 100
- ☐ B. -100
- ☐ C. 0.01
- ☐ D. -0.01



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3) Which equation represents a proportional relationship?

☐ A. $y = 2x + 3$

☐ C. $y = x - 1$

☐ B. $y = \frac{1}{2}x + 2$

☐ D. $y = -5x$

4) A store's revenue is $\$200 + \15 per item sold. What is the slope of revenue versus items sold?

☐ A. \$200

☐ C. \$215

☐ B. \$30

☐ D. \$15

5) Plan X: \$10/week, start \$0. Plan Y: \$8/week, start \$50. After how many weeks equal?

6) Train A travels at 60 mph. Train B travels at 75 mph. If Train B leaves 1 hour later but they meet after Train A has traveled for 5 hours, which equation is correct?

☐ A. $60 \cdot 5 = 75 \cdot 4$

☐ C. $60 \cdot 4 = 75 \cdot 5$

☐ B. $60 \cdot 5 + 75 \cdot 4 = \text{total distance}$

☐ D. $60 \cdot 5 = 75 \cdot 5$

7) In $y = x^2 - 5$, what is the exponent on x ?



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.** **8.5(G)** Solve $5x - 3 = 12$: add 3 to both sides to get $5x = 15$, so $x = 3$.
- 2) **Choice A is correct.** **8.7(B)** The student calculated the sum of the three different face areas but forgot to double each (since there are two of each face). The correct calculation is $SA = 2(12 + 8 + 6) = 52 \text{ m}^2$.
- 3) **Choice D is correct.** **8.5(D)** Substitute $x = 4$: $y = 2.5(4) - 8 = 10 - 8 = 2$.
- 4) **Choice A is correct.** **8.12(A)** Option C has zero interest (lowest cost) but requires \$125/month. Option A costs \$200 extra but is affordable at \$50/month. For someone with limited cash flow, Option A balances cost and affordability.
- 5) **Choice C is correct.** **8.10(D)** FOIL: $(x + 3)(x - 5) = x^2 - 5x + 3x - 15 = x^2 - 2x - 15$.
- 6) **The correct answer is 22.** **8.2(B)** $22 \times 22 = 484$, so $\sqrt{484} = 22$.
- 7) **Choice A is correct.** **8.8(B)** Test $(0, 0)$: $3(0) + 2(0) = 0 \leq 12$ TRUE. The boundary is included, so use $\leq$.
- 8) **Choice C is correct.** **8.5(G)** The definition of a function only requires that each input has exactly one output. Different inputs can produce different outputs, and some functions are constant while others are not.
- 9) **Choice A is correct.** **8.5(F)** Slope of f : $\frac{3}{4} = 0.75$. Slope of g : $(5 - 3)/4 = 2/4 = 0.5$. Since $0.75 > 0.5$, f is steeper.
- 10) **Choice B is correct.** **8.5(B)** Linear functions have constant slope. Option B: slope from 1 to 2 is $\frac{8-5}{1} = 3$; from 2 to 3 is $\frac{11-8}{1} = 3$. Constant, so linear.
- 11) **Choice B is correct.** **8.7(C)** Using the Pythagorean Theorem: $11^2 + 60^2 = 121 + 3600 = 3721$, so $c = 61$ (the 11-60-61 triple).
- 12) **Choice A is correct.** **8.7(D)** The hypotenuse (15) is the longest side. The correct equation is $c^2 = a^2 + b^2$, which gives $15^2 = 9^2 + b^2$.
- 13) **Choice B is correct.** **8.1(A)** Alternate interior angles are congruent when a transversal cuts parallel lines. So $q = 89^\circ$.
- 14) **Choice B is correct.** **8.6(A)** $V = \frac{1}{3} \times B \times h = \frac{1}{3} \times 9\sqrt{3} \times 8 = 24\sqrt{3} \approx 41.57 \text{ cm}^3$, rounded to $\approx 42 \text{ cm}^3$.
- 15) **Choice A is correct.** **8.10(D)** Circle area $= \pi r^2 = 3.14 \times 7^2 = 153.86 \text{ m}^2$. Square area $= 4 \times 4 = 16 \text{ m}^2$. Remaining $= 153.86 - 16 = 137.86 \text{ m}^2$.
- 16) **The correct answer is $(3, \frac{5}{2})$.** **8.5(F)** Add the equations to eliminate y : $(3x - 2y) + (x + 2y) = 4 + 8$, so $4x = 12$, giving $x = 3$. Substitute: $3 + 2y = 8$, so $2y = 5$ and $y = \frac{5}{2}$.
- 17) **Choice B is correct.** **8.8(D)** Sum of angles in a pentagon is 540° . Two angles are 120° each, totaling 240° . The remaining three angles sum to $540 - 240 = 300^\circ$. Each of the three equal angles: $\frac{300}{3} = 100^\circ$.
- 18) **The correct answer is B,E.** **8.12(D)** There are 10 marbles total. B is true because $P(\text{blue}) = \frac{3}{10}$. E is true because $P(\text{red or blue}) = \frac{5+3}{10} = \frac{8}{10} = \frac{4}{5}$. A is false because $P(\text{red}) = \frac{1}{2}$. C is false because $P(\text{green}) = \frac{1}{5}$. D is false because $P(\text{yellow}) = 0$.
- 19) **Choice D is correct.** **8.11(A)** Wide spread with no clear trend (neither upward nor downward) indicates weak or no correlation. The two variables do not show a consistent relationship.
- 20) **Choice B is correct.** **8.11(B)** Original data has $MAD = 0$ (all identical). Adding a value equal to the mean keeps all deviations at 0. New $MAD = 0$.
- 21) **Choice C is correct.** **8.2(A)** Apply power to numerator and denominator: $\left(\frac{x}{y}\right)^2 = \frac{x^2}{y^2}$.
- 22) **The correct answer is 55 units.** **8.8(A)** The inequality is $45 + x \geq 100$. Subtract 45: $x \geq 55$. The worker must complete at least 55 more units.
- 23) **Choice C is correct.** **8.2(C)** Multiply: $(7 \times 4) \times (10^3 \times 10^2) = 28 \times 10^5 = 2.8 \times 10^6$.
- 24) **Choice C is correct.** **8.4(B)** Proportional: $y = 15x$. For $x = 2.5$: $y = 15(2.5) = 37.5 \text{ MB}$.
- 25) **Choice B is correct.** **8.5(F)** Constant second differences indicate a quadratic (degree-2 polynomial) function, which is nonlinear.



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Hi, Momentum Builder!

◇ Finishing a Grade 8 practice book is not a small thing. It means you practiced persistence, patience, and flexible problem solving. ◇

★ **Remember this:** Some questions were quick. Others probably made you stop and think. Both kinds helped you grow because practice turns effort into confidence. This version gave you 10 opportunities to rehearse test-day habits. ★

Momentum Habits

- **Start Clean:** Write down what the problem gives you.
- **Pick a Tool:** Use a table, model, equation, or graph.
- **Keep Moving:** Skip and return when needed.
- **Review Smart:** Study mistakes without judging yourself.

Grade 8 test-day tip: If a problem feels stuck, change tools. A graph, table, or sketch can make the same idea clearer.

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

Jay Daie

Your Math Momentum Partner

PRACTICE TODAY. SUCCEED TOMORROW!

This book includes **10** full-length Math practice tests and **2** online tests to help Grade 8 students build confidence, strengthen skills, and excel on standardized assessments.

Each practice test is carefully crafted to reflect the latest standards and includes a variety of question types, realistic test conditions, and detailed answer explanations.

Perfect for classroom use, homework, test preparation, and extra practice at home.



THIS BOOK INCLUDES:

10

Full-Length
Printed Tests

2

Online
Practice Tests



Detailed Answers
& Explanations



MORE PRACTICE. GREATER RESULTS.

Give your child the tools to build strong math skills, confidence, and a positive attitude toward learning.

WHAT YOU'LL GAIN



Build Confidence

Practice regularly to feel prepared and test-ready.



Master Key Skills

Develop strong math skills and problem solving abilities.



Improve Understanding

Learn with clear explanations and step-by-step solutions.



Test Strategies

Learn proven strategies to approach every question with confidence.



Boost Performance

Apply your knowledge and achieve your best score!

TOPICS COVERED

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



2 ONLINE TESTS

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



2 EXTRA ONLINE TEST ACCESS CODE IS INSIDE THE BOOK!

Don't lose it—your extra practice and success start here!



PRACTICE
REGULARLY



STAY
FOCUSED



SOLVE
CONFIDENTLY



SUCCEED
BRIGHTLY