

6 TEXAS STAAR

GRADE

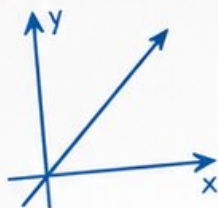
7

MATH

PRACTICE TESTS

Standards Aligned
Problem Solving For
Comprehensive
Assessment Programs

$$y = mx + b$$



$$2(x - 3) = 4x + 6$$



6 PRINTED TESTS



2 ONLINE TESTS



USE THESE TWO
ADDITIONAL ONLINE
PRACTICE TESTS
FOR EXTRA REVIEW AFTER
THE PRINTED TESTS
IN THIS BOOK.



Build
Confidence



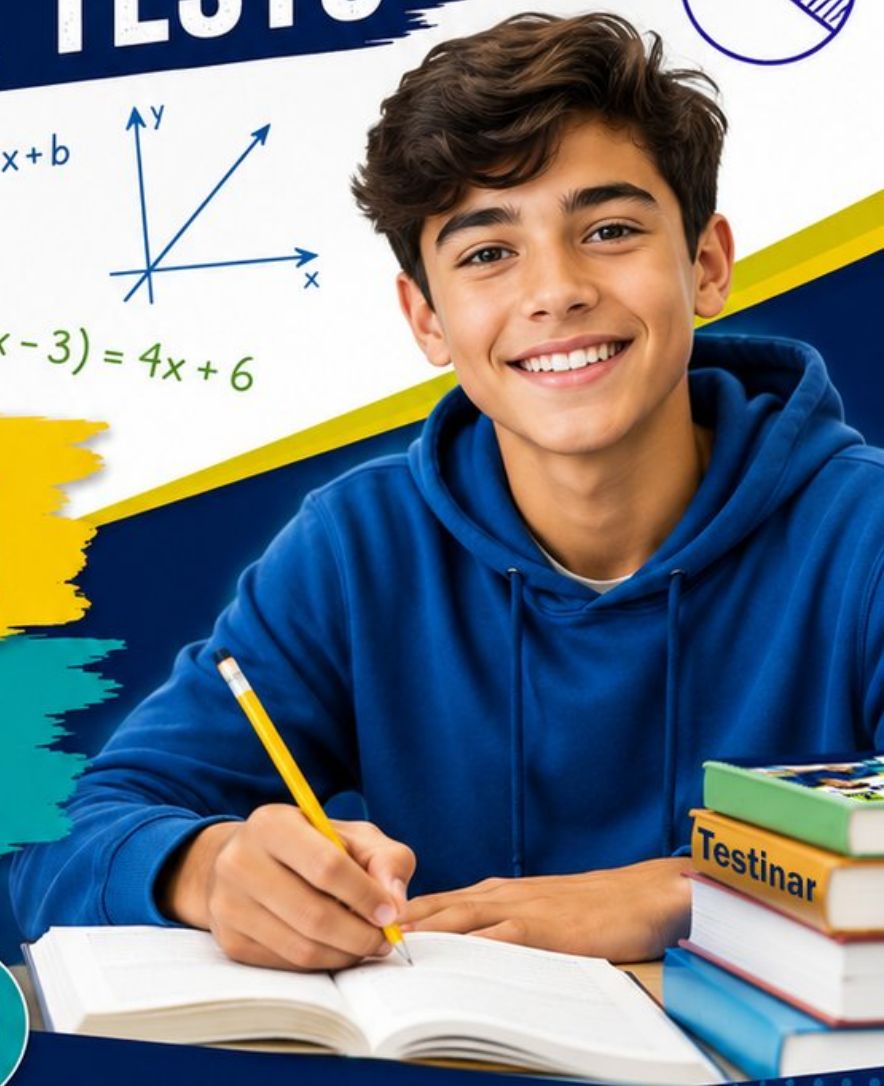
Strengthen
Math Skills



Detailed Answers
& Explanations

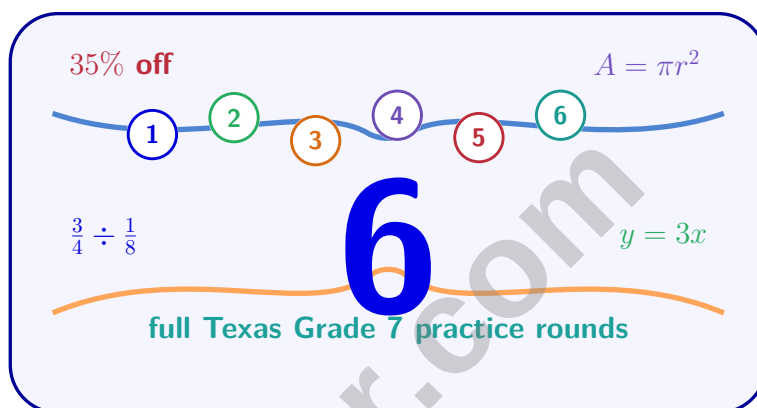


Improve Test
Performance



6 Texas STAAR Grade 7 Math Practice Tests

STAAR-Aligned Grade 7 Practice with Review and Explanations



Six complete 40-question Grade 7 STAAR 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, Texas Grade 7 Problem Solver!

Six focused rounds for sharper STAAR math thinking

This book gives you six full Grade 7 STAAR 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 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 six-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.

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?

Six STAAR tests, 240 questions, and a complete review path

Part	What You Will Practice
Tests 1–3	Proportional relationships, unit rates, percents, rational-number operations, and careful reading.
Tests 4–6	Expressions, equations, inequalities, scale drawings, geometry, 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.



Scan me!
For more practice
& answers

Table of Contents

★ Practice Test 1	_____	16
★ Practice Test 2	_____	30
★ Practice Test 3	_____	45
★ Practice Test 4	_____	60
★ Practice Test 5	_____	75
★ Practice Test 6	_____	89
Practice Test Answer Keys	_____	103
Practice Test Answers and Explanations	_____	107

1) To create a simulation of selecting a random student from a class of 28 students, a researcher uses a die rolled 4 times. Is this an appropriate model?

- ☐ A. Yes, because a die can represent any number
- ☐ B. Yes, because 4 rolls produce many different outcomes
- ☐ C. No, because the die produces at most 6 outcomes per roll
- ☐ D. No, because the die does not produce equally likely outcomes for all values 1–28

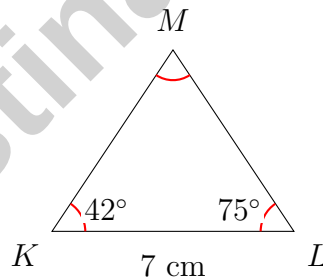
2) Solve for x : $2(x + 6) = 20$

- ☐ A. $x = 2$
- ☐ B. $x = 4$
- ☐ C. $x = 6$
- ☐ D. $x = 8$

3) Convert $\frac{5}{8}$ to a decimal and then to a percent.

- ☐ A. 58%
- ☐ B. 85%
- ☐ C. 75%
- ☐ D. 62.5%

4)



A triangle has two angles of 42° and 75° , and the side between them is 7 cm. How many different (non-congruent) triangles can be formed?

- ☐ A. 0
- ☐ B. 1
- ☐ C. 2
- ☐ D. Infinitely many



- 5) A soup can has a radius of 2 inches and a height of 4 inches. What is the volume of the can? Use $\pi \approx 3.14$.

☐ A. 25.12 in^3

☐ C. 75.36 in^3

☐ B. 50.24 in^3

☐ D. 100.48 in^3

- 6) A triangle has vertices at $A(1,0)$, $B(3,0)$, and $C(2,2)$. If the triangle is reflected over the x -axis, what are the new coordinates of vertex C ?

- 7) Two similar triangles have areas in the ratio 4 : 9. If the smaller triangle has a base of 8 cm, what is the base of the larger triangle?

- 8) Which pair of samples demonstrates a population with both higher center and greater reliability?

☐ A. Mean 50, MAD 8 vs. Mean 52, MAD 12

☐ C. Mean 50, MAD 8 vs. Mean 55, MAD 4

☐ B. Mean 50, MAD 8 vs. Mean 45, MAD 3

☐ D. Mean 50, MAD 8 vs. Mean 50, MAD 2



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9) A box plot for test scores shows: minimum = 55, $Q1 = 70$, median = 80, $Q3 = 88$, maximum = 98. About what percentage of students scored between 70 and 88?

☐ A. 25%

☐ C. 75%

☐ B. 50%

☐ D. 100%

10) A fair die is rolled. What is the probability of rolling an even number?

☐ A. $\frac{1}{6}$

☐ C. $\frac{1}{2}$

☐ B. $\frac{2}{6}$

☐ D. $\frac{2}{3}$

11) An organized list shows all outcomes when drawing one tile from {M, A, T} and one from {1, 2, 3, 4}. How many ordered pairs should the complete list have?

M1, M2, M3, M4, A1, A2, A3, A4, T1, T2, T3, T4

☐ A. 7 pairs

☐ C. 12 pairs

☐ B. 9 pairs

☐ D. 16 pairs

12) Two dot plots show monthly snowfall (in inches) for Mountain Town A and B. Town A: 2, 4, 4, 6, 6, 6, 6, 8, 10. Town B: 0, 1, 5, 8, 12, 14. The town council needs predictable snow for budget planning. Which town's snowfall is more predictable?

☐ A. Town A (data clusters at 4–8 inches)

☐ C. Town A's range (8 inches) is smaller, but Town B is more predictable due to higher peak values

☐ B. Town B (wider range allows better diversity)

☐ D. Town B (extreme values of 0 and 14 are more informative for planning)



1) An item that originally costs \$200 is discounted by \$50. What is the percent discount?

☐ A. 20%

☐ C. 40%

☐ B. 33%

☐ D. 25%

2) A student's test score improved from 72 to 90. What is the percent increase in the score?

☐ A. 18%

☐ C. 25%

☐ B. 20%

☐ D. 80%

3) A researcher runs two independent simulations of the same event. Simulation 1 uses 100 trials and estimates probability 0.48. Simulation 2 uses 500 trials and estimates probability 0.52. Which simulation is likely to be a more reliable estimate of the true probability?

☐ A. Simulation 1, because it has fewer trials

☐ C. Simulation 2, because it has more trials

☐ B. Simulation 1, because the estimate is closer to 0.50

☐ D. Both are equally reliable

4) A letter is randomly selected from the word CAT, and a coin is flipped. Which table correctly represents the sample space?

	H	T
C	CH	CT
A	AH	AT
T	TH	TT

☐ A. 3 outcomes

☐ C. 5 outcomes

☐ B. 4 outcomes

☐ D. 6 outcomes



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- 5) Calculate the MAD for the dataset: 12, 15, 18, 12, 23. Show your work.

- 6) An error analysis: A student calculated the experimental probability of an event as $\frac{\text{total trials}}{\text{favorable outcomes}}$ instead of $\frac{\text{favorable outcomes}}{\text{total trials}}$. If an event occurred 32 times in 200 trials, what error did the student make?

- ☐ A. Found 0.16 instead of 0.32. ☐ C. Found 0.32 instead of 0.16.
☐ B. Found 6.25 instead of 0.16. ☐ D. Made no error.

- 7) A scatter plot shows the relationship between study hours (x-axis) and test score (y-axis) for 10 students. The plot shows a general upward trend, but Student Z studied 4 hours and scored 95, while Student Y studied 4.5 hours and scored 88. Based on this scatter plot, can you conclude that studying exactly 4 hours guarantees a score of 95?

- 8) A weather forecast predicts a 35% chance of snow. Write this probability as a decimal.

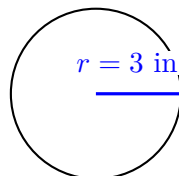


- 1) A proportional relationship is defined by $y = 3.5x$. What is the value of y when $x = 4$?
- ☐ A. 3.5 ☐ C. 14
☐ B. 7.5 ☐ D. 14.5
- 2) If a scale is 2 cm : 1 km, and you measure 5 cm on the map, what is the actual distance?
- ☐ A. 1.5 km ☐ C. 2.5 km
☐ B. 2 km ☐ D. 5 km
- 3) A rectangular window frame is drawn 3.2 inches by 4.8 inches at a scale of 1 in : 2.5 ft. If the scale is changed to 1 in : 5 ft, what will be the new width?
- ☐ A. 1.6 in ☐ C. 3.2 in
☐ B. 2.4 in ☐ D. 6.4 in
- 4) A cube is cut diagonally from one corner to the opposite corner through the interior, creating a plane that passes through three vertices. What shape is the cross-section?
- ☐ A. Equilateral triangle ☐ C. Right triangle
☐ B. Isosceles triangle ☐ D. Scalene triangle
- 5) If angle x and angle y are complementary, and $x = 37^\circ$, what is y ?
- ☐ A. 53° ☐ C. 37°
☐ B. 43° ☐ D. 143°



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- 6) Triangle ABC has sides 13 cm, 5 cm, and 12 cm. Compute $13^2 - (5^2 + 12^2)$.



7)

Circle B

A circle has a radius of 3 inches. What is its area? Use $\pi \approx 3.14$.

- ☐ A. 9.42 in^2
☐ C. 28.26 in^2
☐ B. 18.84 in^2
☐ D. 37.68 in^2
- 8) A consultant charges clients a base rate of \$100 per hour plus a 10% project management fee on the total billable hours. For a 10-hour project, what is the total cost?

- 9) A student rolls a die labeled 1 to 6 and picks a fruit from {Apple, Orange, Banana}. The student claims there are 18 outcomes in the sample space. Is this correct?

- ☐ A. Yes, $6 \times 3 = 18$
☐ C. No, there are 24 outcomes
☐ B. No, there are only 9 outcomes
 ☐ D. No, there are 36 outcomes



Texas STAAR 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 Texas STAAR practice test.



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Practice Test Answers and Explanations

Practice Test 1 Answers and Explanations

- 1) **Choice D is correct.** (7.SP.5-7.SP.8) A single die generates outcomes 1–6. To select uniformly from 28 students, you would need a spinner or random number generator that covers all 28 equally. Rolling the die multiple times creates a complex map that may not be uniform.
- 2) **Choice B is correct.** (7.EE.4a) Distribute: $2x + 12 = 20$. Subtract 12: $2x = 8$. Divide by 2: $x = 4$. (Distractor A: dividing only the right side; Distractor C: forgetting to divide by 2; Distractor D: arithmetic error in final step.)
- 3) **Choice D is correct.** (7.RP.3) Using the proportion $\frac{5}{8} = \frac{p}{100}$, solve to get $p = 62.5$. Thus $\frac{5}{8} = 0.625 = 62.5\%$.
- 4) **Choice B is correct.** (7.G.1-7.G.5) When two angles and the side between them are given, the triangle is uniquely determined. The third angle is $180 - 42 - 75 = 63^\circ$.
- 5) **Choice B is correct.** (7.G.4-7.G.6) $V = \pi r^2 h \approx 3.14 \times 2^2 \times 4 = 3.14 \times 4 \times 4 = 50.24 \text{ in}^3$.
- 6) **The correct answer is (2, -2).** (7.G.1-7.G.5) Reflection over the x -axis uses the rule $(x, y) \rightarrow (x, -y)$. Applying this to $C(2, 2)$: $C' = (2, -2)$.
- 7) **The correct answer is 12.** (7.G.1-7.G.5) Area ratio 4 : 9 gives linear scale factor $\sqrt{4} : \sqrt{9} = 2 : 3$. Larger base $= 8 \times \frac{3}{2} = 12 \text{ cm}$.
- 8) **Choice C is correct.** (7.SP.1-7.SP.4) Higher center means higher average; lower MAD means greater reliability (less variability). Only option C shows both: mean $55 > 50$ (higher) and MAD $4 < 8$ (more reliable).
- 9) **Choice B is correct.** (7.SP.1-7.SP.4) In a box plot, the box spans from Q1 to Q3, representing the middle 50% of the data. Scores between 70 and 88 represent this middle half.
- 10) **Choice C is correct.** (7.SP.5-7.SP.8) Even numbers: 2, 4, 6 (3 outcomes). $P(\text{even}) = \frac{3}{6} = \frac{1}{2}$.
- 11) **Choice C is correct.** (7.SP.5-7.SP.8) Letters: 3; numbers: 4. Total: $3 \times 4 = 12$ ordered pairs.
- 12) **Choice A is correct.** (7.SP.3) Predictability requires tight clustering. Town A concentrates at 4–8 inches (range 8). Town B spreads 0–14 inches (range 14), making individual snowfall unpredictable.
- 13) **Choice B is correct.** (7.SP.6) Experimental probability $= \frac{45}{300} = 0.15$. Expected draws in 600: $0.15 \times 600 = 90$.
- 14) **Choice B is correct.** (7.SP.5-7.SP.8) Without replacement, the total number of marbles changes, making the second draw dependent on the first.
- 15) **Choice B is correct.** (7.SP.5-7.SP.8) $A = 0.5$, $B = 0.6$, $C = 0.55$. Event B has the highest probability ($0.6 > 0.55 > 0.5$).
- 16) **The correct answer is 16 m.** (7.G.4-7.G.6) $C = \pi d \Rightarrow 50.24 = 3.14d \Rightarrow d = 50.24 \div 3.14 = 16 \text{ m}$.
- 17) **Choice C is correct.** (7.SP.1-7.SP.4) $\frac{16}{100} = \frac{x}{8000}$. So $x = 0.16 \times 8000 = 1280$.
- 18) **Choice D is correct.** (7.RP.3) Estimate A: $\frac{|68-72|}{72} \times 100\% \approx 5.6\%$. Estimate B: $\frac{|75-72|}{72} \times 100\% \approx 4.2\%$. Estimate B has smaller error.
- 19) **Choice A is correct.** (7.EE.1-7.EE.2) Distribute $-\frac{1}{2}$: $-\frac{1}{2}(6x) - \frac{1}{2}(-4) = -3x + 2$. Negative times negative is positive.
- 20) **The correct answer is A, C.** (7.G.1-7.G.5) A: Two triangles with the same three side lengths are congruent by SSS. C: Two triangles with two equal sides and an equal included angle are congruent by SAS. B is incorrect because AAA determines similarity, not congruence (triangles can be different sizes). D is incorrect because two angles and two separate sides (not necessarily properly positioned) do not guarantee congruence.
- 21) **Choice C is correct.** (7.RP.3) 35% of 400 is $0.35 \times 400 = 140$.
- 22) **Choice C is correct.** (7.RP.3) First find interest: $I = 5000 \times 0.06 \times 4 = \1200 . Then $A = P + I = 5000 + 1200 = \6200 .
- 23) **Choice A is correct.** (7.NS.1-7.NS.3) $0 - (-9) = 0 + 9 = 9$. The opposite of -9 is 9.
- 24) **The correct answer is 1386.** (7.G.4-7.G.6) $A = \frac{22}{7} \times 21^2 = \frac{22}{7} \times 441 = 22 \times 63 = 1386 \text{ cm}^2$.
- 25) **Choice A is correct.** (7.EE.1) Option A has like terms $2a$ and $6a$ that have not been combined. All others are fully simplified with no like terms remaining.
- 26) **Choice A is correct.** (7.EE.1-7.EE.2) GCF of 6 and 9 is 3. Both terms contain y . GCF is $3y$.
- 27) **Choice B is correct.** (7.SP.1-7.SP.4) 15% of 300 $= 0.15 \times 300 = 45$ gallons.
- 28) **Choice D is correct.** (7.RP.1-7.RP.3) Scale factor: $20 \div 2 = 10$ (reduction by factor of 10). Height: $30 \div 10 = 3$ inches.



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Hi, Persistent Problem Solver!

◇ Some Grade 7 questions ask you to hold several ideas in your mind at once. That can feel hard, and that is exactly why practice matters. ◇

★ **Remember this:** You showed persistence by continuing through the set. That habit is powerful because difficult problems often open after one more good attempt. You practiced across 6 full Grade 7 practice tests, and that repeated effort matters. ★

Persistence Tools

- **Try a Smaller Case:** Use an easier number to see the pattern.
- **Draw It:** Make the situation visible.
- **Restate It:** Say the question in your own words.
- **Check One Step:** Fix the first unclear place.

Grade 7 test-day tip: When stuck, do not restart everything. Find the first step you trust, then rebuild from there.

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

Jay Daie

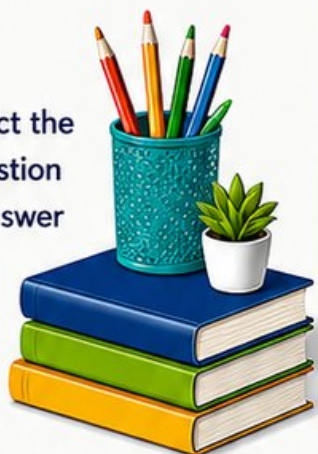
Your Persistence Coach

PRACTICE TODAY. SUCCEED TOMORROW!

This book includes **6** full-length Math practice tests and **2** online tests to help Grade 7 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:

6 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.



Strengthen Math Skills

Develop key math concepts and problem solving abilities.



Improve Understanding

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



Test Confidence

Familiarize with test formats and improve accuracy and speed.



Boost Performance

Apply your knowledge and achieve your best score!

TOPICS COVERED

- ✓ Ratios & Proportions
- ✓ The Number System
- ✓ Expressions & Equations
- ✓ Geometry
- ✓ Percents & Decimals
- ✓ Statistics & Probability
- ✓ Data Analysis
- ✓ Measurement & Conversions
- ✓ Algebraic Thinking
- ✓ 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!



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