

7 Texas STAAR

Grade 7 Math Practice Tests



7 PRINTED TESTS + 2 ONLINE TESTS

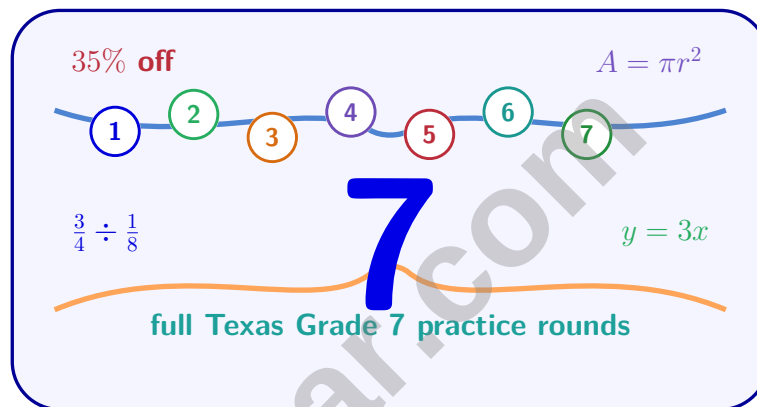


**Standards Aligned Problem Solving
For Comprehensive Assessment Programs**



8 Texas STAAR Grade 7 Math Practice Tests

A confident review of Texas Grade 7 unit rates, percent reasoning, inequalities, volume, data displays, and probability



Eight 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!

Eight focused rounds for sharper STAAR math thinking

This book gives you seven 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

An eight-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?

Eight STAAR tests, 280 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.
Tests 7–8	Statistics, probability, mixed review, stamina, and choosing efficient strategies.
Answer Pages	Compact keys and explanations that show why each answer works.

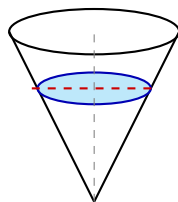
The tests are mixed on purpose. Grade 7 success means recognizing which idea is being tested even when the next question changes format.



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1)

A cone is cut by a plane perpendicular to its axis, as shown. What is the shape of the resulting cross-section?

☐ A. Triangle☐ C. Circle☐ B. Ellipse☐ D. Rectangle2) What is $-7 \times (-3)$?☐ A. -21☐ C. 10☐ B. -10☐ D. 21

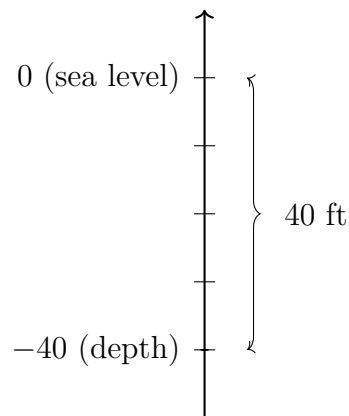
3) An online retailer charges a \$3 processing fee plus \$2.50 per pound for shipping. What is the shipping cost for a package weighing 4 pounds?

☐ A. \$10.00☐ C. \$13.00☐ B. \$10.50☐ D. \$14.00

4) Three side lengths 6.3 m, 8.4 m, and 10.5 m are given. How many non-congruent triangles can be formed using these exact measurements?

☐ A. 0☐ C. 3☐ B. 1☐ D. Infinitely many

- 5) A scuba diver descends 40 feet below sea level. Which integer represents this depth?

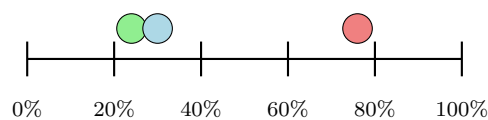


- ☐ A. 40 (ignores direction/below sea level)
- ☐ B. -80 (double the depth)
- ☐ C. 0 (at sea level, not below)
- ☐ D. -40 (correct; below is negative)
- 6) Simplify: $4p + 6q + 2p - q$
- ☐ A. $6p + 5q$
- ☐ B. $6p + 7q$
- ☐ C. $4p + 6q$
- ☐ D. $12pq$
- 7) A rectangular garden has an area of $12m + 20$ square meters. Which could be the dimensions?
- ☐ A. Length 3, width $4m + 5$
- ☐ B. Length 4, width $3m + 5$
- ☐ C. Length 2, width $6m + 10$
- ☐ D. Length 5, width $2.4m + 4$



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Estimated Probabilities



8)

Three simulation estimates are plotted on the number line: 0.24 (green), 0.38 (blue), and 0.76 (red). If the true theoretical probability is 0.25, which estimate has the smallest error?

- ☐ A. Green at 0.24 ☐ C. Red at 0.76
☐ B. Blue at 0.38 ☐ D. All three have equal error

9) A diver is 15 feet below sea level. She swims up 8 feet. How many feet below sea level is she now? (Represent below sea level as negative.)

- ☐ A. -23 feet ☐ C. 7 feet
☐ B. 23 feet ☐ D. -7 feet

Cost of Apples

Price per pound: \$1.50 Weight: w pounds Total cost = ?

10)

- ☐ A. $1.50 + w$ ☐ C. $\frac{w}{1.50}$
☐ B. $1.50w$ ☐ D. $w - 1.50$

11) A rectangular prism has surface area 250 cm^2 . If length = 10 cm and width = 5 cm, what is the height?

- ☐ A. 5 cm ☐ C. 7.5 cm
☐ B. 10 cm ☐ D. 12.5 cm



1) Expand: $-2(x + 4)$

☐ A. $-2x - 8$

☐ C. $2x - 8$

☐ B. $-2x + 8$

☐ D. $-2x + 4$

2) A book originally costs \$30. Which form best shows the factored structure of a 10% discount (that you keep 90% of the price)?

☐ A. $30 - 0.1(30)$

☐ C. 0.9×30

☐ B. $30(1 - 0.1)$

☐ D. $30 + 10$

3) A box plot shows video download times (in seconds) for two internet providers. Provider A: $Q1 = 8$, Median = 12, $Q3 = 16$. Provider B: $Q1 = 6$, Median = 12, $Q3 = 20$. Which provider has more consistent performance?

☐ A. Provider A (IQR = 8, tighter spread)

☐ C. Both providers are identical

☐ B. Provider B (IQR = 14, more flexible)

☐ D. Provider B (faster upper quartile)

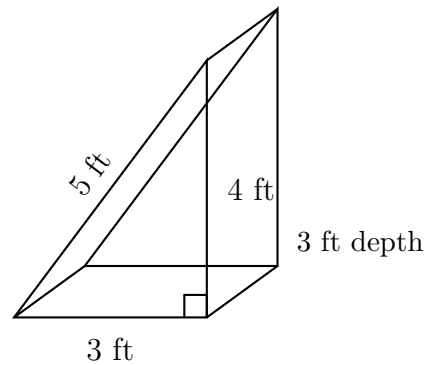
4) A car travels at a constant speed passing through the origin and the point (2, 140) on a distance-time graph (where x = hours and y = miles). What is the unit rate in miles per hour?



- 5) A composite figure is formed by joining a trapezoid (parallel sides 5 cm and 7 cm, height 4 cm) with a rectangle (7 cm $\times$ 3 cm). What is the total area?
- ☐ A. 24 cm² ☐ C. 48 cm²
☐ B. 45 cm² ☐ D. 60 cm²
- 6) A rectangular prism has dimensions 5 m, 4 m, and 8 m. What is its volume?
- ☐ A. 320 m³ ☐ C. 40 m³
☐ B. 160 m³ ☐ D. 17 m³
- 7) A circle has a diameter of 14 cm. What is its radius?
- ☐ A. 7 cm ☐ C. 21 cm
☐ B. 14 cm ☐ D. 28 cm
- 8) Marcus invests \$500 at 5% annual compound interest. What is the balance after 3 years?
- ☐ A. \$575 ☐ C. \$579.13
☐ B. \$578.81 ☐ D. \$625
- 9) A coin is flipped twice to simulate a compound event. How many outcomes involve “at least one heads”?
- ☐ A. 1 ☐ C. 3
☐ B. 2 ☐ D. 4
- 10) Evaluate: $\frac{5}{12} + \frac{1}{3}$. Express your answer as a fraction in simplest form.



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1)

A triangular prism has a right triangular base with legs 3 ft and 4 ft (hypotenuse 5 ft), and the prism has depth 3 ft. Find the surface area.

☐ A. 12 ft^2
☐ C. 48 ft^2
☐ B. 24 ft^2
☐ D. 72 ft^2

2) A clothing store has a rack with 50 items. The sign says “60% off summer collection.” How many items are in the summer collection?

☐ A. 20 items

☐ C. 40 items

☐ B. 60 items

☐ D. 30 items

3) A house’s value decreased from \$300 000 to \$255 000. What is the percent decrease?

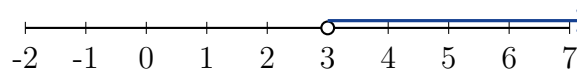
☐ A. 85%

☐ C. 45 000%

☐ B. 17.6%

☐ D. 15%

4) Choose the correct representation for $j > 3$.


☐ A. Closed circle at 3 pointing left

☐ C. Closed circle at 3 pointing right

☐ B. Open circle at 3 pointing right

☐ D. Open circle at 3 pointing left


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- 5) What negative common factor is factored out of $-8x - 16$?

- 6) A simulation of rolling two dice uses two spinners, each with 6 equal sections numbered 1–6. If the simulation is performed 120 times, approximately how many times would you expect to see a sum of 7?

- ☐ A. 10 times ☐ C. 20 times
☐ B. 15 times ☐ D. 25 times

- 7) A researcher collects data about exercise habits by surveying 150 people at a gym. Which statement about this sample is true?

- ☐ A. It is a random sample of the general population
☐ B. It is representative of all adults' exercise habits
☐ C. It is biased because it overrepresents people who exercise regularly
☐ D. It has no bias because the sample size is large

- 8) Solve: $\frac{-x}{3} \leq 4$

- ☐ A. $x \leq -12$ ☐ C. $x < 4$
☐ B. $x \geq -12$ ☐ D. $x > -12$



State of Texas Assessments of Academic Readiness 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 State of Texas Assessments of Academic Readiness practice test.



Practice Test Answers and Explanations

Practice Test 1 Answers and Explanations

- 1) **Choice C is correct.** **(7.G.1-7.G.5)** Any plane perpendicular to a cone's axis creates a circular cross-section. The smaller the radius of the cross-section, the higher up on the cone the cut is made.
- 2) **Choice D is correct.** **(7.NS.2)** Negative times negative equals positive. $-7 \times (-3) = 21$.
- 3) **Choice C is correct.** **(7.RP.3)** Shipping cost = $3 + (2.50 \times 4) = 3 + 10 = \13.00 .
- 4) **Choice B is correct.** **(7.G.1-7.G.5)** Three specific side lengths define exactly one unique triangle (up to congruence) by the SSS condition, provided the Triangle Inequality is satisfied. Check: $6.3 + 8.4 = 14.7 > 10.5$ ✓; all conditions hold, so exactly one triangle exists.
- 5) **Choice D is correct.** **(7.NS.1-7.NS.3)** Descending (going down) below sea level is represented by a negative number. A descent of 40 feet is -40 .
- 6) **Choice A is correct.** **(7.EE.1)** Combine like terms: $(4p + 2p) + (6q - q) = 6p + 5q$.
- 7) **Choice B is correct.** **(7.EE.1-7.EE.2)** Factor: $12m + 20 = 4(3m + 5)$. Dimensions are 4 and $3m + 5$.
- 8) **Choice A is correct.** **(7.SP.5-7.SP.8)** Error for green: $|0.24 - 0.25| = 0.01$. Error for blue: $|0.38 - 0.25| = 0.13$. Error for red: $|0.76 - 0.25| = 0.51$. Green has the smallest error.
- 9) **Choice D is correct.** **(7.NS.1b)** Position = $-15 + 8 = -7$. She is still 7 feet below sea level (represented as -7).
- 10) **Choice B is correct.** **(7.EE.1-7.EE.2)** Multiply price per pound by number of pounds: $1.50w$.
- 11) **Choice A is correct.** **(7.G.4-7.G.6)** $SA = 2(lw + lh + wh) = 250$. $2(50 + 10h + 5h) = 250 \Rightarrow 50 + 15h = 125 \Rightarrow 15h = 75 \Rightarrow h = 5$ cm.
- 12) **The correct answer is 13.** **(7.NS.1-7.NS.3)** If the difference is $4 - x = -9$, then $x = 4 - (-9) = 4 + 9 = 13$. Check: $4 - 13 = -9$ ✓.
- 13) **Choice A is correct.** **(7.SP.1-7.SP.4)** Surveying only customers at one store at one time is a convenience sample because it only includes people who are easy to reach, not a random selection of all teenagers in the city.
- 14) **Choice B is correct.** **(7.NS.1-7.NS.3)** $2.5 \times 10^{-3} = 2.5 \times 0.001 = 0.0025$. Move decimal 3 places left.
- 15) **Choice A is correct.** **(7.EE.1-7.EE.2)** When multiplying powers with the same base, add the exponents: $3^5 \cdot 3^2 = 3^{5+2} = 3^7$, not 3^{10} . The student multiplied the exponents ($5 \times 2 = 10$) instead of adding them.
- 16) **Choice B is correct.** **(7.EE.3-7.EE.4)** Subtract 2: $\frac{x}{4} = 3$. Multiply by 4: $x = 12$. Mental math check: $\frac{12}{4} + 2 = 3 + 2 = 5$ ✓. Reasonable: one-quarter of 12 is 3; add 2 gives 5.
- 17) **Choice B is correct.** **(7.EE.4b)** $x < -2$ means all values less than (but not equal to) -2 . Use an open circle and an arrow pointing left.
- 18) **Choice A is correct.** **(7.G.1-7.G.5)** Reflection over the y -axis maps $(x, y) \rightarrow (-x, y)$. So $(2, 2) \rightarrow (-2, 2)$.
- 19) **The correct answer is 0.03.** **(7.RP.3)** $240 = 2000 \times r \times 4 \Rightarrow 240 = 8000r \Rightarrow r = 0.03$.
- 20) **The correct answer is A,C.** **(7.RP.1-7.RP.3)** True: A ($4 \times 6 = 24$ feet) and C ($2 \times 6 = 12$ feet; $2.5 \times 6 = 15$ feet). False: B (area scales by $6^2 = 36$, not 6); D (area: $900 \div 36 = 25$ sq in, not 36); E (areas are reduced by $\frac{1}{36}$ on the plan, not $\frac{1}{6}$).
- 21) **Choice C is correct.** **(7.G.1-7.G.5)** All linear dimensions scale by the scale factor. Height = $2 \times 1.5 = 3$ cm.
- 22) **Choice C is correct.** **(7.G.4-7.G.6)** Using the area formula by mistake: $\pi r^2 = 3.14 \times 4^2 = 3.14 \times 16 = 50.24$ m (incorrect; correct circumference is $2\pi r = 25.12$ m).
- 23) **Choice C is correct.** **(7.G.4-7.G.6)** $565.2 = 3.14 \times r^2 \times 20 \Rightarrow 565.2 = 62.8r^2 \Rightarrow r^2 = 9 \Rightarrow r = 3$ cm.
- 24) **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.
- 25) **Choice B is correct.** **(7.SP.1-7.SP.4)** A box plot displays the quartiles, median, and extreme values (min/max), making outliers visually apparent as points beyond the whiskers.
- 26) **Choice C is correct.** **(7.SP.5-7.SP.8)** Prime numbers from 1 to 20: 2, 3, 5, 7, 11, 13, 17, 19 (8 numbers). $P(\text{prime}) = \frac{8}{20} = \frac{2}{5}$.
- 27) **Choice B is correct.** **(7.NS.1-7.NS.3)** Find a common denominator: $-\frac{3}{4} + \frac{2}{4} = -\frac{1}{4}$.
- 28) **Choice A is correct.** **(7.NS.1-7.NS.3)** $-\frac{2}{3} \div \frac{4}{5} = -\frac{2}{3} \times \frac{5}{4} = -\frac{10}{12} = -\frac{5}{6}$.



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You Are Building Test Stamina

Hi, Stamina Builder!

◇ This broad and demanding book gave you seven strong Grade 7 practice tests, so you had repeated chances to build accuracy, pacing, and confidence. Completing practice tests builds more than math knowledge. It builds the focus needed to think clearly for a long stretch. ◇

★ **Remember this:** That stamina matters. On real test day, calm pacing can be just as important as remembering a formula. ★

Stamina Skills

- **Breathe:** Reset before a difficult page.
- **Pace:** Do not spend too long in one place.
- **Return:** Come back to skipped questions with fresh eyes.
- **Finish Strong:** Use the last minutes to check.

Grade 7 test-day tip: Practice a simple reset: pause, breathe, reread, then choose your next step.

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

Jay Daie

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Build a solid foundation through targeted practice and review.



Better Problem Solving

Develop logical thinking and effective solution strategies.



Deeper Understanding

Reinforce key concepts with clear explanations and meaningful practice.



Test Confidence

Familiarize with test formats and improve accuracy and speed.



Achieve Success

Build confidence and perform your best on test day.

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



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SOLVE
CONFIDENTLY



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BRIGHTLY



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