

8

Oklahoma OSTP

GRADE 7

MATH

PRACTICE TESTS



**Standards Aligned
Problem Solving**

For Comprehensive
Assessment Programs



**8 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 SKILLS



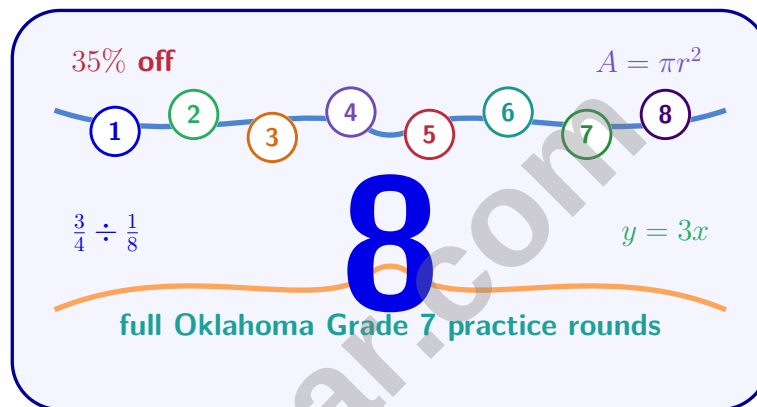
THINK SMARTER



BE TEST-READY

8 Oklahoma OSTP Grade 7 Math Practice Tests

A complete practice path for Oklahoma Grade 7 percents, simple interest, equations, scale drawings, data comparison, and probability



Eight complete 40-question Grade 7 OSTP 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, Oklahoma Grade 7 Problem Solver!

Eight focused rounds for sharper OSTP math thinking

This book gives you eight full Grade 7 OSTP 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 Oklahoma 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.

Oklahoma 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 OSTP tests, 320 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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& answers

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1) A quarter circle has a radius of 8 centimeters. What is its area? Use $\pi \approx 3.14$.

☐ A. 12.56 cm^2

☐ C. 50.24 cm^2

☐ B. 25.12 cm^2

☐ D. 100.48 cm^2

2) Express 0.000000008 in scientific notation.

☐ A. 8×10^{-8}

☐ C. 8×10^{-10}

☐ B. 8×10^{-9}

☐ D. 80×10^{-9}

3) A perimeter of a square is $4(2b + 1)$. Which expression is equivalent?

☐ A. $8b + 4$

☐ C. $6b + 5$

☐ B. $8b + 1$

☐ D. $2b + 5$

4) Solve: $5(x - 2) = 30$ and verify using inverse operations.

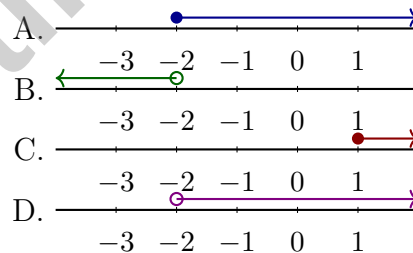
☐ A. $x = 6$

☐ C. $x = 10$

☐ B. $x = 8$

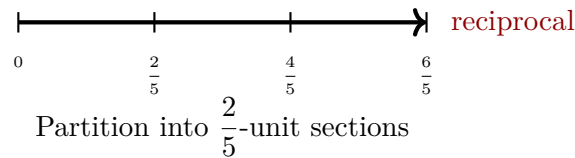
☐ D. $x = 12$

5) Which number line represents $x < -2$?



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- 6) Reciprocal partitioning: To divide by $\frac{2}{5}$, multiply by _____.



- ☐ A. $\frac{2}{5}$
☐ C. $\frac{1}{5}$
- ☐ B. $\frac{5}{2}$
☐ D. 2
- 7) A tank contains $\frac{7}{8}$ of its maximum capacity. If the maximum is 64 gallons, how many gallons are in the tank?
- ☐ A. 49 gallons
 ☐ C. 63 gallons
- ☐ B. 56 gallons
 ☐ D. 72 gallons
- 8) A gym membership costs m dollars per month. With a 15% sign-up bonus (you pay less), which form is **not** equivalent to the others?
- ☐ A. $m - 0.15m$
☐ C. $m(0.85)$
- ☐ B. $0.85m$
☐ D. $1.15m$
- 9) Simplify: $\frac{q^{10}}{q^6}$
- ☐ A. q^4
☐ C. q^{60}
- ☐ B. q^{16}
☐ D. q^{-4}
- 10) A lawn-care service charges \$35 for the first yard and \$25 for each additional yard. If someone pays \$110, which equation finds y , the total number of yards mowed?
- ☐ A. $25y + 35 = 110$
☐ C. $25(y - 1) + 35 = 110$
- ☐ B. $35y + 25 = 110$
☐ D. $25y + 35y = 110$



11) Which equation is equivalent to $3(x - 5) = 24$?

☐ A. $3x - 15 = 24$

☐ C. $x - 15 = 24$

☐ B. $3x - 5 = 24$

☐ D. $3x = 19$

12) A drawing of a rectangular park uses a scale of 1 in : 200 ft. In the drawing, the park is 3 inches by 2 inches. What is the actual area of the park in square feet?

☐ A. 120000 sq ft

☐ C. 360000 sq ft

☐ B. 240000 sq ft

☐ D. 480000 sq ft

13) If you earn \$18 per hour and work 35 hours per week, what is your weekly gross pay before taxes?

14) Starting with \$600, an account earns 8% annual compound interest. How much interest is earned after 3 years?



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Fixed	$3w$ variable
-------	---------------

1) Total = 85 lbs

A shipping service charges a \$10 fixed packaging fee and \$3 per pound for the item weight. The bar model shows this cost structure. Which equation models the total cost C for an item weighing w pounds?

☐ A. $C = 3w + 10$

☐ C. $C = 3 + 10w$

☐ B. $C = 10w + 3$

☐ D. $C = 10(3w)$

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

☐ A. $x = 1$

☐ C. $x = 3$

☐ B. $x = 2$

☐ D. $x = 4$

3) Simplify: $(y^2)^6$

☐ A. y^8

☐ C. y^{36}

☐ B. y^{12}

☐ D. $2y^6$

4) Solve for x : $5(x - 2) = 35$

☐ A. $x = 5$

☐ C. $x = 9$

☐ B. $x = 7$

☐ D. $x = 12$

5) If the opposite of a number equals the number itself, what is that number?

☐ A. Any positive number

☐ C. Zero only

☐ B. Any negative number

☐ D. All integers work



- 6) Two datasets both have a range of 30. Which measure would help distinguish their variability further?
- ☐ A. Mode ☐ C. Minimum value
☐ B. Interquartile range or MAD ☐ D. Outlier count
- 7) 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. $\frac{2}{3}$
- 8) A spinner with sections 1, 2, 3 is spun, and a coin is flipped. What is the probability of getting a number greater than 1 and a Tails?
- ☐ A. $\frac{1}{6}$ ☐ C. $\frac{2}{3}$
☐ B. $\frac{1}{3}$ ☐ D. $\frac{1}{2}$
- 9) A circle graph shows the budget allocation for a school: Athletics 20%, Academics 50%, Support Services 20%, Other 10%. If the total budget is \$500,000, how much is allocated to Academics?
- ☐ A. \$50,000 ☐ C. \$200,000
☐ B. \$100,000 ☐ D. \$250,000
- 10) The circumference of a circle is 50.24 meters. Using $\pi \approx 3.14$, find the diameter.



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- 1) To simulate the probability of guessing a true/false question correctly 3 times in a row, which tool best models this compound event?
- ☐ A. Rolling a six-sided die once
- ☐ B. Flipping a coin 3 times
- ☐ C. Spinning a spinner with 3 equal sections once
- ☐ D. Drawing a card from a deck of 52 once
- 2) A shirt costs \$60. With a 15% discount, which expression represents the final price?
- ☐ A. 0.15×60
- ☐ B. 0.85×60
- ☐ C. 1.15×60
- ☐ D. $60 - 15$
- 3) A back-to-back stem-and-leaf plot compares writing scores of two 7th-grade classes. Class 1 (left): Stem 7: Leaves 2, 5, 8, 9 | Stem 8: Leaves 1, 4, 7. Class 2 (right): Stem 7: Leaves 3, 4 | Stem 8: Leaves 0, 2, 5, 6, 8. Which statement is true?
- ☐ A. Class 1 has more students with scores in the 70s
- ☐ B. Class 2 has more students with scores in the 80s
- ☐ C. Both classes have the same number of students
- ☐ D. Class 1 has the highest single score
- 4) A spinner has 5 equal sections: 1, 1, 2, 3, 3. Find $P(1)$.
- ☐ A. $\frac{1}{5}$
- ☐ B. $\frac{2}{5}$
- ☐ C. $\frac{3}{5}$
- ☐ D. $\frac{1}{3}$
- 5) In a stem-and-leaf plot, the stem represents the tens digit and leaves represent the ones digit. If a value is 67, what stem and leaf should be written?
- ☐ A. Stem 6, Leaf 7
- ☐ B. Stem 7, Leaf 6
- ☐ C. Stem 60, Leaf 7
- ☐ D. Stem 67, Leaf 1



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6) Expand: $(x + 5) \cdot (-2)$

☐ A. $-2x - 10$

☐ C. $2x - 10$

☐ B. $-2x + 5$

☐ D. $x - 10$

7) What is $0 - 5$?

☐ A. 5

☐ C. 0

☐ B. 10

☐ D. -5

8) Which expression is equivalent to $3(2y + 7)$?

☐ A. $6y + 21$

☐ C. $3y + 10$

☐ B. $6y + 7$

☐ D. $2y + 21$

9) A cube has surface area 216 cm^2 . What is the edge length?

☐ A. 4 cm

☐ C. 36 cm

☐ B. 6 cm

☐ D. 1296 cm

10) A circle graph displays the distribution of rainy days per season in a region. Summer has 5%, fall has 25%, winter has 45%, and spring has 25%. If the year has 365 days, approximately how many rainy days occur in winter?

☐ A. 45

☐ C. 164

☐ B. 91

☐ D. 183

11) Evaluate $\frac{x-1}{3} + 2$ when $x = 7$.

☐ A. 3

☐ C. 4

☐ B. 2

☐ D. $\frac{8}{3}$



Oklahoma OSTP 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 Oklahoma OSTP practice test.



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Practice Test Answers and Explanations

Practice Test 1 Answers and Explanations

- 1) **Choice C is correct.** (7.G.4-7.G.6) Area of full circle: $A = 3.14 \times 8^2 = 3.14 \times 64 = 200.96 \text{ cm}^2$. Quarter: $\frac{200.96}{4} = 50.24 \text{ cm}^2$.
- 2) **Choice B is correct.** (7.NS.1-7.NS.3) Move decimal 9 places right: $0.000000008 \rightarrow 8$. Exponent is -9 . Proper scientific notation requires $1 \leq a < 10$.
- 3) **Choice A is correct.** (7.EE.1-7.EE.2) Distribute: $4(2b + 1) = 4 \cdot 2b + 4 \cdot 1 = 8b + 4$.
- 4) **Choice B is correct.** (7.EE.3-7.EE.4) Divide by 5: $x - 2 = 6$. Add 2: $x = 8$. Check: $5(8 - 2) = 5(6) = 30$ ✓. Reasonable: five groups of 6 equals 30.
- 5) **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.
- 6) **Choice B is correct.** (7.NS.1-7.NS.3) The reciprocal of $\frac{2}{5}$ is $\frac{5}{2}$. Division by a fraction equals multiplication by its reciprocal.
- 7) **Choice B is correct.** (7.NS.1-7.NS.3) $\frac{7}{8} \times 64 = 7 \times 8 = 56$ gallons.
- 8) **Choice D is correct.** (7.EE.1-7.EE.2) A 15% discount gives $m - 0.15m = 0.85m = m(0.85)$. Choice D, $1.15m$, represents a markup, not a discount.
- 9) **Choice A is correct.** (7.EE.1-7.EE.2) Quotient rule: $\frac{q^{10}}{q^6} = q^{10-6} = q^4$.
- 10) **Choice C is correct.** (7.EE.4a) First yard is \$35, then \$25 per additional yard. For y total yards: $35 + 25(y - 1) = 110$.
- 11) **Choice A is correct.** (7.EE.4a) The distributive property gives $3 \cdot x - 3 \cdot 5 = 24$, so $3x - 15 = 24$.
- 12) **Choice B is correct.** (7.G.1-7.G.5) Actual dimensions: $600 \text{ ft} \times 400 \text{ ft}$. Area: $600 \times 400 = 240000 \text{ sq ft}$.
- 13) **The correct answer is \$630.** (7.RP.3) Weekly pay: $18 \times 35 = \$630$.
- 14) **The correct answer is \$155.83.** (7.RP.3) Final balance: $600(1.08)^3 = 600 \times 1.2597 = 755.83$. Interest earned: $755.83 - 600 = 155.83$.
- 15) **Choice C is correct.** (7.SP.5-7.SP.8) Two favorable outcomes out of five equal sections: $P(2 \text{ or } 4) = \frac{2}{5} = 0.4$.
- 16) **Choice C is correct.** (7.NS.2) First: $(-2) \times (-3) = 6$. Then: $6 + (-1) = 5$. Multiply first by order of operations, then add.
- 17) **Choice C is correct.** (7.RP.3) Coordination fee = $0.12 \times 3000 = \$360$. Amount kept = $3000 - 360 = \$2,640$.
- 18) **Choice C is correct.** (7.SP.1-7.SP.4) Values in the range: 31, 34, 34, 37 (all from stem 3) = 4 values.
- 19) **The correct answer is A, C.** (7.RP.3) A balanced budget must include money for necessities (A) and reserves for savings and emergencies (C). Options B, D, and E represent poor financial habits that lead to deficit budgets or lack of financial security.
- 20) **Choice A is correct.** (7.G.4-7.G.6) Rectangle: $16 \times 12 = 192 \text{ yd}^2$. Triangle: $\frac{1}{2} \times 12 \times 4 = 24 \text{ yd}^2$. Remaining: $192 - 24 = 168 \text{ yd}^2$.
- 21) **Choice D is correct.** (7.RP.1-7.RP.3) Markup: $50\% \times 8 = 4$. Selling price: $8 + 4 = 12$.
- 22) **Choice B is correct.** (7.G.4-7.G.6) Base area = $\frac{1}{2} \times 10 \times 6 = 30 \text{ in}^2$. Depth = $\frac{V}{B} = \frac{360}{30} = 12 \text{ in}$.
- 23) **Choice B is correct.** (7.G.1-7.G.5) Triangle Inequality: $|14 - 6| < c < 14 + 6$ gives $8 < c < 20$. Whole numbers in this range: 9, 10, 11, ..., 19 which is 11 values.
- 24) **Choice B is correct.** (7.G.1-7.G.5) For (3, 4, 5): $3^2 + 4^2 = 9 + 16 = 25 = 5^2$ ✓. For (5, 12, 13): $5^2 + 12^2 = 25 + 144 = 169 = 13^2$ ✓. Both are right triangles. Since they have different side lengths, they are not congruent.
- 25) **Choice B is correct.** (7.G.4-7.G.6) The center is the point inside the circle equidistant from all points on the circle. M is at the center.
- 26) **Choice C is correct.** (7.SP.1-7.SP.4) Researcher 1: $\frac{8}{32} = 0.25$ or 25%. Researcher 2: $\frac{12}{48} = 0.25$ or 25%. Same proportion, though Researcher 2's larger sample is more reliable.
- 27) **Choice D is correct.** (7.NS.1-7.NS.3) The opposite of -8 is 8. A change of 8 degrees from -8° brings you to 0° , representing equal but opposite temperature shifts.
- 28) **Choice D is correct.** (7.RP.1-7.RP.3) Multiply model length by scale factor: $9 \times 18 = 162 \text{ cm}$.



Hi, Detail Champion!

◇ In Grade 7, small details can change an entire answer: a negative sign, a decimal place, a unit, an exponent, or an inequality symbol. ◇

★ **Remember this:** You practiced noticing those details. That is a serious test skill, and it gets better with every careful review. This version gave you 8 opportunities to rehearse test-day habits. ★

Detail Checks

- **Signs:** Circle negatives before simplifying.
- **Symbols:** Read inequality signs carefully.
- **Decimals:** Line up place values.
- **Units:** Match the unit the question asks for.

Grade 7 test-day tip: Use the final minute on each section for a detail scan, not a full redo.

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

Jay Daie

Your Detail-Check Coach

PRACTICE TODAY. SUCCEED TOMORROW!

This book includes **8** 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:

8 Full-Length Printed Tests

2 Online Practice Tests

 Detailed Answer 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



Stronger Math Skills

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.

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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