

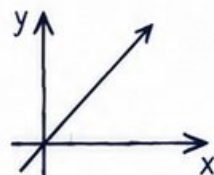
4

Oklahoma
OSTPGRADE
7
MATH

PRACTICE TESTS

Standards Aligned
Problem Solving
For Comprehensive
Assessment Programs

$$y = mx + b$$



$$\frac{2x}{3} + \frac{x}{6} = 2$$



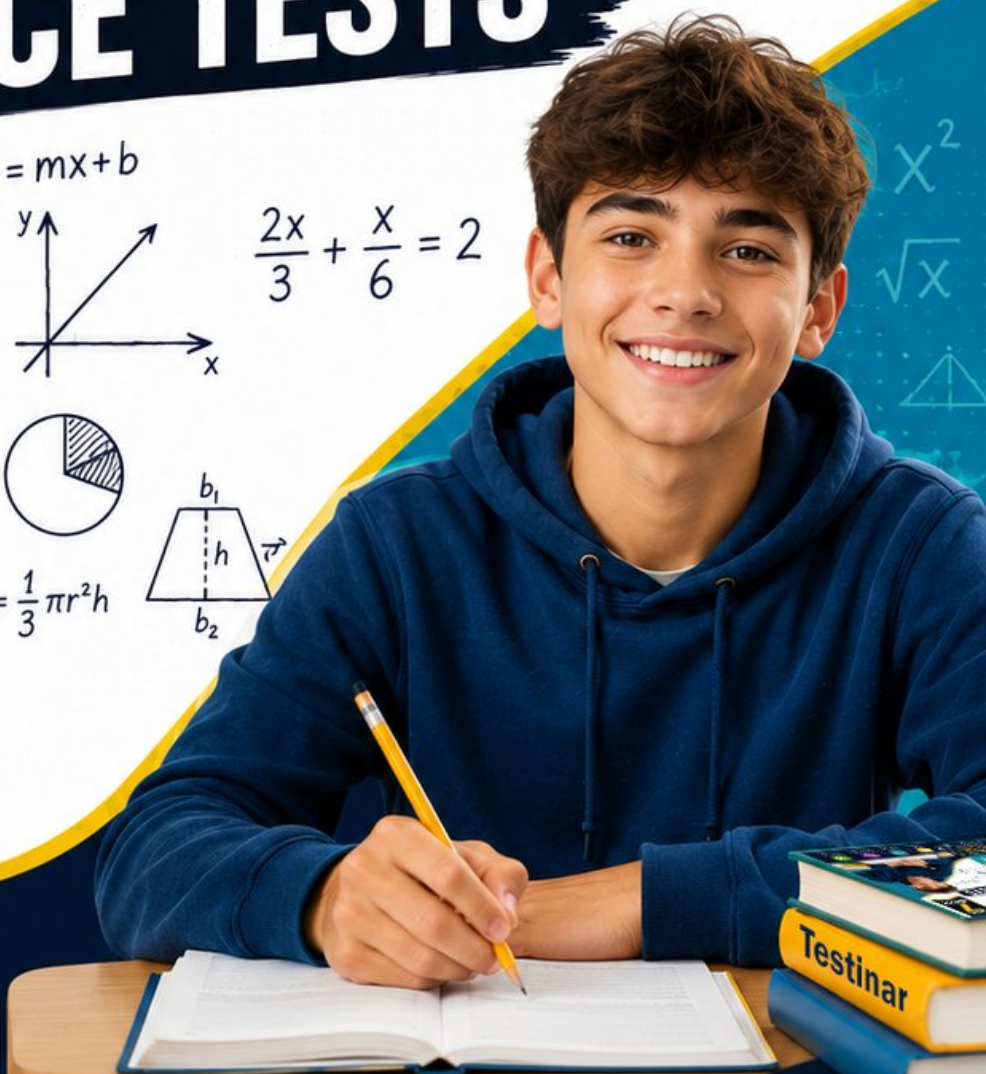
$$V = \frac{1}{3} \pi r^2 h$$



4 PRINTED TESTS



2 ONLINE TESTS

USE THESE TWO
ADDITIONAL ONLINE
PRACTICE TESTSFOR EXTRA REVIEW AFTER
THE PRINTED TESTS
IN THIS BOOK.Build
ConfidenceStrengthen
Math SkillsDetailed Answers
& ExplanationsImprove Test
Performance

4 Oklahoma OSTP Grade 7 Math Practice Tests

Four-Test Oklahoma Math Review with Clear Answer Help



Four 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!

Four focused rounds for sharper OSTP math thinking

This book gives you four 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

A four-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?

Four OSTP tests, 160 questions, and a focused review path

Part	What You Will Practice
Tests 1–2	Proportional relationships, unit rates, percents, rational-number operations, and careful reading.
Tests 3–4	Expressions, equations, inequalities, scale drawings, geometry, data, probability, 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.



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& answers

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- 1) If a complementary pair has one angle that is four times the other, what is the measure of the smaller angle?
- ☐ A. 15° ☐ C. 22.5°
☐ B. 18° ☐ D. 30°
- 2) A plate has diameter 10 inches. Using $\pi \approx \frac{22}{7}$, approximately what is its circumference?
- ☐ A. $\frac{220}{7}$ in ☐ C. $\frac{440}{7}$ in
☐ B. $\frac{110}{7}$ in ☐ D. $\frac{80}{7}$ in
- 3) What is the area of a circle with radius $\frac{1}{2}$ meter? Use $\pi \approx 3.14$.
- ☐ A. 0.785 m^2 ☐ C. 3.14 m^2
☐ B. 1.57 m^2 ☐ D. 6.28 m^2
- 4) The lateral surface area of a cylinder is 157 cm^2 . If the height is 10 cm, what is the radius? Use $\pi \approx 3.14$.
- ☐ A. 2.5 cm ☐ C. 7.5 cm
☐ B. 5 cm ☐ D. 10 cm
- 5) A researcher collects data on the relationship between hours of sleep and performance on a math test for 20 students. Some data points show students who slept 7 hours and scored 60, while others slept 7 hours and scored 95. What does this variation BEST indicate?
- ☐ A. Sleep has no effect on test performance ☐ C. The data is incorrect because the same sleep results in different scores
☐ B. Sleep alone does not determine test scores; other factors matter ☐ D. Students who sleep 7 hours have inconsistent abilities



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6) A marble bag contains 5 green, 3 purple, and 2 orange marbles. If drawing without replacement, which compound event is MOST likely?

- ☐ A. Green then purple ☐ C. Purple then purple
☐ B. Orange then green ☐ D. Green then green

7) Two box plots compare the price (in dollars) of gasoline over a year at two locations. Location 1: Min = \$2.10, Median = \$2.50, Max = \$2.90. Location 2: Min = \$2.00, Median = \$2.50, Max = \$3.20. A traveler wants stable prices. Which location has more volatile prices?

- ☐ A. Location 1 (smaller range: \$0.80) ☐ D. Location 1 (higher median means stability)
☐ B. Location 2 (larger range: \$1.20)
☐ C. Both have identical volatility

8) A frequency table shows results from drawing cards with replacement 500 times:

Card Type	Hearts	Diamonds	Clubs	Spades
Frequency	140	125	128	107

Which suit has the lowest experimental probability?

- ☐ A. Hearts ☐ C. Clubs
☐ B. Diamonds ☐ D. Spades

9) A temperature changes from -8 degrees to 8 degrees. What is the total change in temperature?



- 10) A student created a stem-and-leaf plot of plant heights (cm):

Stem	Leaves
8	2, 5, 9
9	1, 4, 6, 8
10	0, 3, 5, 7

A plant with height 94 cm was accidentally recorded as 49 cm. After correction, what is the new maximum?

- ☐ A. 94
☐ B. 107
☐ C. 98
☐ D. 105
- 11) Calculate $-9 \times \frac{4}{3}$.

- 12) A patio is composed of two identical trapezoids joined together. Each trapezoid has parallel sides of 4 m and 6 m with height 3 m. What is the total area?

- ☐ A. 15 m^2
☐ B. 30 m^2
☐ C. 45 m^2
☐ D. 60 m^2

- 13) A rectangular prism has dimensions 5 m, 4 m, and 8 m. What is its volume?

- ☐ A. 320 m^3
☐ B. 160 m^3
☐ C. 40 m^3
☐ D. 17 m^3



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- 1) Evaluate $2x + 3y - z$ when $x = 5$, $y = 1$, and $z = 2$.
- ☐ A. 9 ☐ C. 13
☐ B. 11 ☐ D. 15
- 2) A bank account has a debt of \$4 per item owed. If 5 items are removed from debt, the account change is represented as $(-4) \times (-5)$. What is the result?
- ☐ A. -20 dollars ☐ C. 20 dollars
☐ B. -9 dollars ☐ D. 9 dollars
- 3) What is $\sqrt{144}$ minus $\sqrt{64}$?
- ☐ A. 2 ☐ C. 6
☐ B. 4 ☐ D. 8
- 4) Which factorization of $20x + 30$ is correct?
- ☐ A. $10(2x + 3)$ ☐ C. $20(x + 1.5)$
☐ B. $5(4x + 6)$ ☐ D. All are correct
- 5) A store sells 6 notebooks for \$15. What is the unit price (cost per notebook)?
- ☐ A. \$1.50 ☐ C. \$4.00
☐ B. \$5.00 ☐ D. \$2.50
- 6) What is the opposite of -15 ?
- ☐ A. 15 (correct) ☐ C. 0 (neither opposite nor equal)
☐ B. -15 (no sign change) ☐ D. $|-15|$ (absolute value, not opposite)



7) A farmer has a field with area $24ab + 36b$ square meters. Which factorization represents the dimensions?

☐ A. $12b(2a + 3)$

☐ C. $24(ab + 1.5b)$

☐ B. $6b(4a + 6)$

☐ D. $4(6ab + 9b)$

8) A cube has edge length 3 cm. What is its surface area?

☐ A. 9 cm^2

☐ C. 27 cm^2

☐ B. 18 cm^2

☐ D. 54 cm^2

9) A principal of \$1500 earns \$180 in simple interest at 6% annually. For how many years was the money invested?

10) Which expression is simplified?

☐ A. $3x + 2x - y$

☐ C. $5x - y$

☐ B. $5x + 2x - y + y$

☐ D. $2x + 3x + 4y$

11) A spinner is spun 60 times, and section A appears 18 times. What is the experimental probability of landing on section A?

☐ A. 0.20

☐ C. 0.30

☐ B. 0.25

☐ D. 0.35



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- 1) Two students estimate the same measurement. Student A estimates 42 when the actual value is 50. Student B estimates 48 when the actual is 50. Which student's estimate has the smaller percent error?

- ☐ A. Student A ☐ C. Both have the same error
☐ B. Cannot be determined ☐ D. Student B

- 2) What decimal is equivalent to $\frac{3}{20}$?

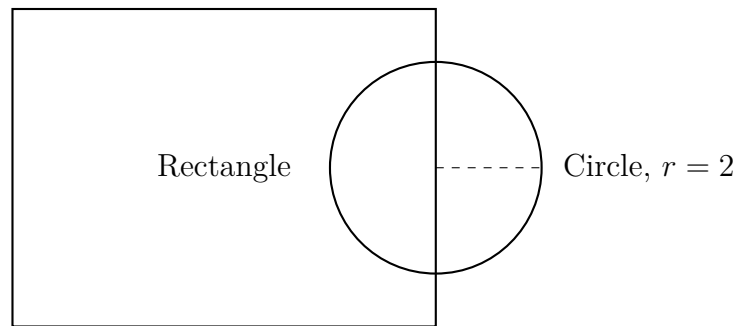
- 3) Two dot plots show the time (in minutes) students spend on homework. Group X: 25, 30, 30, 35, 35, 35, 40, 40, 45 minutes; Group Y: 15, 20, 35, 40, 50, 55 minutes. Which group's homework time is most predictable?

- ☐ A. Group X (clusters around 35 minutes) ☐ C. Both groups have the same pattern
☐ B. Group Y (spreads from 15 to 55 minutes) ☐ D. Group Y (longer homework time on average)
- 4) A bank account starts with a balance of \$250.75. The account loses \$12.50 per month for 5 months. What is the final balance?



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5)



A composite figure has a rectangle ($8 \text{ m} \times 6 \text{ m}$) with a circle (radius 2 m) attached to one side. Using $\pi \approx 3.14$, what is the total area?

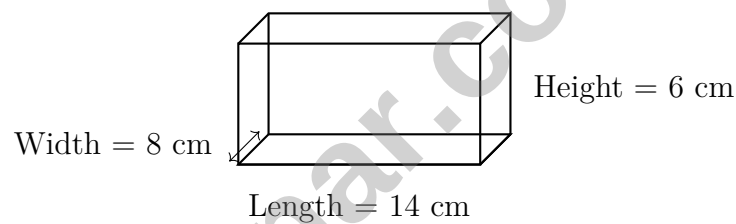
☐ A. 12.56 m^2

☐ C. 60.56 m^2

☐ B. 48 m^2

☐ D. 98.24 m^2

6)



A rectangular prism has the dimensions shown. What is its volume?

☐ A. 28 cm^3

☐ C. 504 cm^3

☐ B. 224 cm^3

☐ D. 672 cm^3

7) Which set of conditions does NOT uniquely determine a triangle?

☐ A. Three side lengths given

☐ C. Two side lengths and an angle NOT between them

☐ B. Two side lengths and the angle between them given

☐ D. Two angles and any side length given



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 B is correct.** **(7.G.1-7.G.5)** Let the smaller angle be x . Then $x + 4x = 90^\circ$, so $5x = 90^\circ$ and $x = 18^\circ$.
- 2) **Choice A is correct.** **(7.G.4-7.G.6)** $C = \pi d = \frac{22}{7} \times 10 = \frac{220}{7}$ in ≈ 31.4 in.
- 3) **Choice A is correct.** **(7.G.4-7.G.6)** $A = \pi r^2 = 3.14 \times \left(\frac{1}{2}\right)^2 = 3.14 \times 0.25 = 0.785 \text{ m}^2$.
- 4) **Choice A is correct.** **(7.G.4-7.G.6)** $157 = 2(3.14)(r)(10) \Rightarrow 157 = 62.8r \Rightarrow r = 2.5$ cm.
- 5) **Choice B is correct.** **(7.SP.1-7.SP.4)** A scatter plot reveals association, not causation. Variation in scores at the same sleep duration indicates that other variables (studying, prior knowledge, test anxiety) also influence performance.
- 6) **Choice D is correct.** **(7.SP.5-7.SP.8)** $P(\text{GG}) = \frac{5}{10} \cdot \frac{4}{9} = \frac{20}{90}$. $P(\text{GP}) = \frac{5}{10} \cdot \frac{3}{9} = \frac{15}{90}$. $P(\text{OG}) = \frac{2}{10} \cdot \frac{5}{9} = \frac{10}{90}$. $P(\text{PP}) = \frac{3}{10} \cdot \frac{2}{9} = \frac{6}{90}$. Green-green is largest.
- 7) **Choice B is correct.** **(7.SP.3)** Volatility is measured by range. Location 1: $\$2.90 - \$2.10 = \$0.80$. Location 2: $\$3.20 - \$2.00 = \$1.20$. Larger range indicates more volatility.
- 8) **Choice D is correct.** **(7.SP.6)** Compare relative frequencies: Hearts $\frac{140}{500} = 0.28$, Diamonds $\frac{125}{500} = 0.25$, Clubs $\frac{128}{500} = 0.256$, Spades $\frac{107}{500} = 0.214$. Spades has the lowest.
- 9) **The correct answer is 16.** **(7.NS.1-7.NS.3)** The change is final minus initial: $8 - (-8) = 8 + 8 = 16$ degrees.
- 10) **Choice B is correct.** **(7.SP.1-7.SP.4)** After removing 49 from stem 4 and correcting to 94 in stem 9, the maximum becomes 107 (stem 10, leaf 7).
- 11) **The correct answer is -12.** **(7.NS.2)** $-9 \times \frac{4}{3} = \frac{-36}{3} = -12$.
- 12) **Choice B is correct.** **(7.G.4-7.G.6)** Each trapezoid: $\frac{1}{2}(4+6) \times 3 = 15 \text{ m}^2$. Two trapezoids: $15 \times 2 = 30 \text{ m}^2$.
- 13) **Choice B is correct.** **(7.G.4-7.G.6)** Volume = $l \times w \times h = 5 \times 4 \times 8 = 160 \text{ m}^3$.
- 14) **Choice D is correct.** **(7.G.1-7.G.5)** With only angles known ($32^\circ, 58^\circ, 90^\circ$), the shape is determined but not the size. Any scale of this triangle satisfies the angle conditions.
- 15) **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.
- 16) **Choice B is correct.** **(7.G.4-7.G.6)** By definition, a chord connects two points on the circle. It need not pass through the center.
- 17) **Choice B is correct.** **(7.SP.5-7.SP.8)** By definition, an impossible event has probability 0 and a certain event has probability 1.
- 18) **Choice B is correct.** **(7.SP.1-7.SP.4)** Set up the proportion: $\frac{18}{50} = \frac{x}{800}$. Solve: $x = \frac{18 \times 800}{50} = 288$.
- 19) **Choice B is correct.** **(7.NS.1-7.NS.3)** The error is choice B. The student forgot to flip the sign of -6 to $+6$. The correct process: $-4 - (-6) = -4 + 6 = 2$. The student mistakenly added $-4 + (-6) = -10$ instead.
- 20) **The correct answer is 11.** **(7.NS.1-7.NS.3)** $\sqrt{25} = 5$ and $\sqrt{36} = 6$, so $5 + 6 = 11$.
- 21) **The correct answer is 24.** **(7.EE.1-7.EE.2)** Distribute and distribute the negative: $2x + 14 - x + 3 + 5$. Combine like terms: $(2x - x) + (14 + 3 + 5) = x + 22$. With $x = 2$: $2 + 22 = 24$.
- 22) **The correct answer is A,D.** **(7.RP.1-7.RP.3)** A and D are unit rates because each gives a price per single unit of weight. Option B is a distance, and option C is a total count.
- 23) **Choice D is correct.** **(7.RP.3)** $\frac{30}{100} = 30\%$ of the grid is shaded.
- 24) **Choice C is correct.** **(7.SP.1-7.SP.4)** 18% of $200 = 0.18 \times 200 = 36$ people.
- 25) **Choice D is correct.** **(7.RP.1-7.RP.3)** Each ratio: $25/10 = 2.5, 50/20 = 2.5, 75/30 = 2.5$. The constant ratio is \$2.50 per ticket.
- 26) **Choice D is correct.** **(7.RP.1-7.RP.3)** The unit rate is 0.9 (from the point $(1, 0.9)$). When $x = 5$, $y = 5 \times 0.9 = 4.5$.
- 27) **Choice D is correct.** **(7.RP.1-7.RP.3)** Unit rate = $\frac{5/6}{1/3} = \frac{5}{6} \times 3 = \frac{15}{6} = \frac{5}{2} = 2.5$ gal/min.
- 28) **Choice D is correct.** **(7.RP.1-7.RP.3)** Proportional relationships have the form $y = kx$ with no constant term. The equation $C = 2.50n + 5.99$ has a nonzero initial value, \$5.99, so it does not pass through the origin and is not proportional.



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Hi, Smart Reviewer!

◇ The best learning often happens after the test, when you look back and notice what worked and what needs attention. This carefully paced book gave you four steady Grade 7 practice tests, so you had repeated chances to build accuracy, pacing, and confidence. ◇

★ **Remember this:** You can use these practice tests as a map. The questions you solved quickly show strengths; the questions you missed show where to train next. ★

Review Routine

- **Sort:** Group mistakes by skill.
- **Reread:** Check whether the question was misunderstood.
- **Resolve:** Do the problem again without looking.
- **Record:** Write the lesson in one sentence.

Grade 7 test-day tip: Review in short focused sessions. Ten careful minutes can be more useful than an hour of rushing.

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

Jay Daie

Your Review Coach

PRACTICE TODAY. SUCCEED TOMORROW!

This book includes **4** 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:

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2 Online Practice Tests

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Practice regularly to feel prepared and test-ready.



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Improve Understanding

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



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Familiarize with test formats and improve accuracy and speed.



Boost Performance

Apply your knowledge and achieve your best score!

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



2 ONLINE TESTS

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