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Oklahoma OSTP

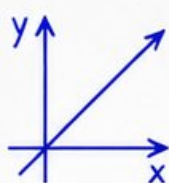
GRADE

7

MATH

PRACTICE TESTS

Standards Aligned
Problem Solving
For Comprehensive
Assessment Programs



$$y = mx + b$$

$$\frac{2}{3} + \frac{1}{6} = \frac{5}{6}$$



$$V = \pi r^2 h$$



5 PRINTED
TESTS



2 ONLINE
TESTS

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



Build
Confidence



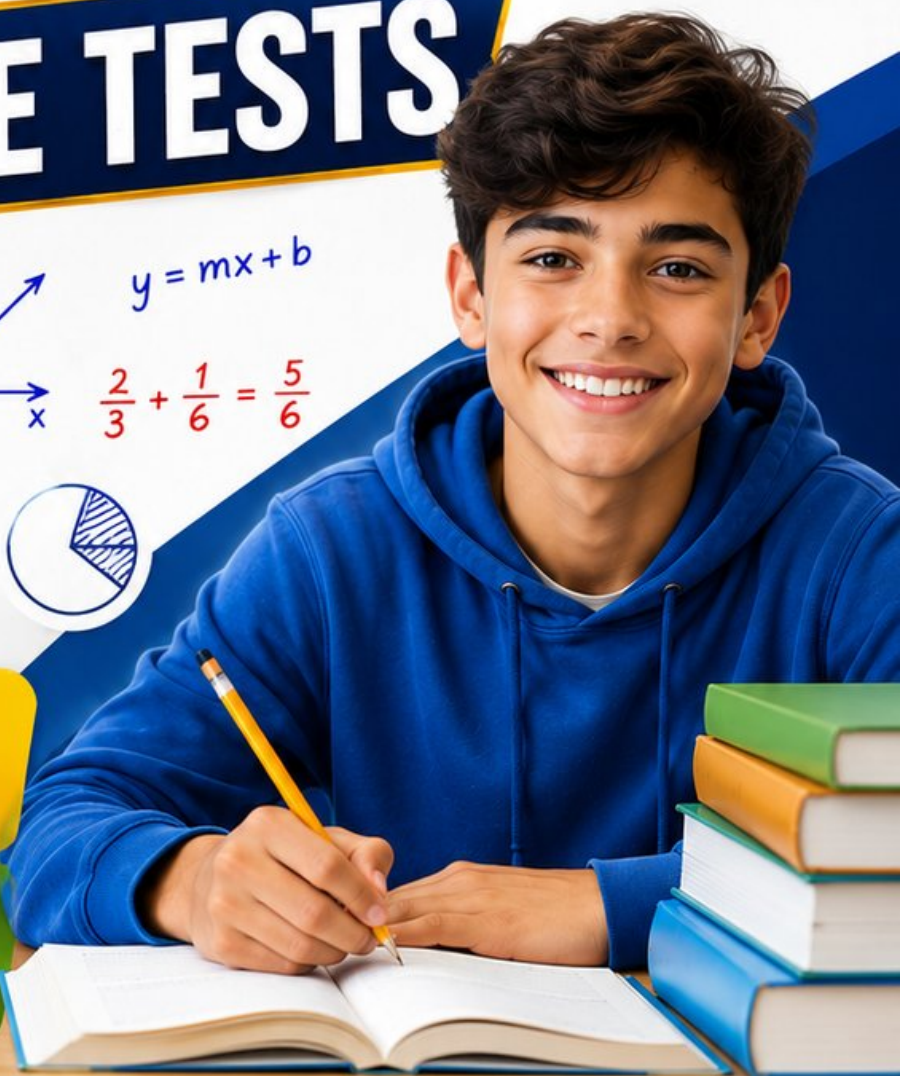
Strengthen
Math Skills



Detailed Answers
& Explanations



Improve Test
Performance



5 Oklahoma OSTP Grade 7 Math Practice Tests

Grade 7 Math Confidence Practice with Keys and Explanations



Five 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!

Five focused rounds for sharper OSTP math thinking

This book gives you five 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 five-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?

Five OSTP tests, 200 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 3–5	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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For more practice
& answers

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1) A bike tire has diameter 24 inches. If the tire rotates 20 times, how far does the bike travel? Use $\pi \approx \frac{22}{7}$.

☐ A. About 1507 inches

☐ C. About 753 inches

☐ B. About 3014 inches

☐ D. About 6029 inches

2) An account balance grows from \$4000 to \$4900 over 5 years using simple interest. What was the annual interest rate?

☐ A. 3%

☐ C. 4.5%

☐ B. 5%

☐ D. 4%

3) Which is the simplest form of $-6 - (-4)$?

☐ A. -10

☐ C. 2

☐ B. 10

☐ D. -2

4) A worker is paid \$18 per hour. What are the earnings for 40 hours?

5) A bookstore has 400 books. If 22% of them are fiction, how many fiction books are there?

☐ A. 66

☐ C. 88

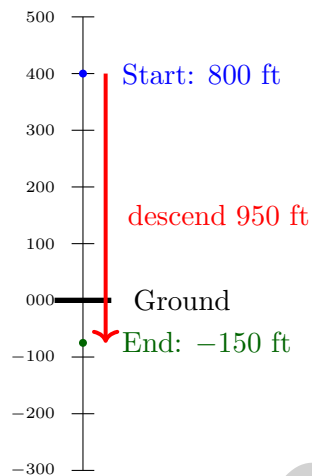
☐ B. 78

☐ D. 100



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- 6) A helicopter is hovering at 800 feet above ground. It descends 950 feet. Is it now above or below ground, and by how much?



- ☐ A. 150 feet above ground ☐ C. 150 feet below ground
☐ B. 1750 feet above ground ☐ D. 1750 feet below ground
- 7) Evaluate $4x - y + 2$ when $x = 3$ and $y = 5$.
- ☐ A. 5 ☐ C. 19
☐ B. 7 ☐ D. 9
- 8) A sector measuring 162° represents what percent of the circle?
- ☐ A. 25% ☐ C. 45%
☐ B. 40% ☐ D. 50%



- 9) A cyclist rides at 12 kilometers per hour. The table below shows distance traveled at different times. Which entry breaks the proportional pattern?

Time (h)	0.5	1	1.5	2
Distance (km)	6	12	18	25

- ☐ A. Time 0.5 h ☐ C. Time 1.5 h
☐ B. Time 1 h ☐ D. Time 2 h
- 10) Which of the following does NOT represent a proportional relationship?
- ☐ A. $y = 6x$ ☐ C. $y = x + 2$
☐ B. $y = 0.5x$ ☐ D. $y = \frac{3}{4}x$
- 11) What is $\frac{1}{3}$ as a decimal?
- ☐ A. 0.3 ☐ C. $0.\overline{3}$
☐ B. 0.31 ☐ D. 0.35
- 12) Simplify: $\frac{\frac{5}{8}}{\frac{3}{4}}$
- ☐ A. $\frac{15}{32}$ ☐ C. $\frac{32}{15}$
☐ B. $\frac{6}{5}$ ☐ D. $\frac{5}{6}$
- 13) A soccer team won 16 out of 20 games. What percent of games did they win?
- ☐ A. 64% ☐ C. 80%
☐ B. 75% ☐ D. 85%



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- 1) Two histograms show daily step counts for sedentary workers vs. active workers. Sedentary: concentrated at 3000–5000 steps. Active: concentrated at 10000–12000 steps. What is the most valid conclusion?

- ☐ A. Active workers get significantly more steps ☐ C. Sedentary workers should not be hired
- ☐ B. Both groups have identical activity levels ☐ D. Job type does not affect step count levels

- 2) Simplify $\frac{1}{4}m + \frac{3}{4}m + 2n$, then evaluate when $m = 2$ and $n = 3$.

- 3) A biology class conducted experiments. In 40 trials, 8 showed unexpected results. If the class conducts 200 trials total, about how many are expected to show unexpected results?

- ☐ A. 20 ☐ C. 40
- ☐ B. 30 ☐ D. 50

- 4) A retailer sells an item for \$110 after marking up the cost by 10%. What was the original cost?

- ☐ A. \$99 ☐ C. \$121
- ☐ B. \$95 ☐ D. \$100



- 5) The equation $v = \frac{2}{7}w$ represents a proportional relationship. Which table matches this equation?

w	7	14	28
v	2	4	8

- ☐ A. No, the ratios are not constant ☐ C. No, the constant is 2
☐ B. No, the constant is $\frac{1}{4}$ ☐ D. Yes, this table matches $v = \frac{2}{7}w$
- 6) A bakery uses $\frac{3}{16}$ pound of butter per cake. How many pounds of butter are needed for 12 cakes?
- ☐ A. $2\frac{1}{4}$ pounds ☐ C. 3 pounds
☐ B. $\frac{9}{8}$ pounds ☐ D. $\frac{3}{192}$ pounds
- 7) A cube has edge length 5 mm. What is its surface area?
- ☐ A. 25 mm^2 ☐ C. 125 mm^2
☐ B. 50 mm^2 ☐ D. 150 mm^2
- 8) Which simulation tool best models the probability of selecting a red marble or a blue marble from a bag with equal numbers of red and blue marbles?
- ☐ A. Rolling a standard die once ☐ D. Drawing two cards from a deck without replacing the first
☐ B. Flipping a coin
☐ C. Spinning a spinner with 10 equal sections
- 9) Which value of x is a solution to $x + 6 > 10$?
- ☐ A. $x = 3$ ☐ C. $x = 5$
☐ B. $x = 4$ ☐ D. $x = 2$



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- 1) A chef uses flour and sugar in a proportional recipe. The table shows the relationship.

Flour (cups)	Sugar (cups)
3	1
6	2
9	3

What is the constant of proportionality (sugar per flour)?

- ☐ A. 3 ☐ C. $\frac{1}{2}$
☐ B. 1 ☐ D. $\frac{1}{3}$

- 2) Solve the inequality $x - 3 < 4$ and identify which number line is correct.



- 3) A rectangular patio in a landscape design is 4 inches by 5 inches at scale 1 in : 3 ft. What is the perimeter of the actual patio in feet?

- ☐ A. 18 ft ☐ C. 54 ft
☐ B. 27 ft ☐ D. 30 ft

- 4) A bakery charges \$3 per cookie plus a \$4 delivery fee. If your total bill is \$19, how many cookies did you order?

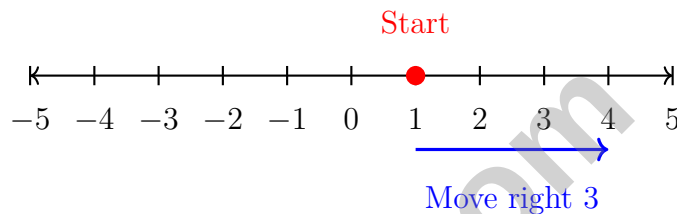


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- 5) Two savings accounts earn interest at different rates. Account 1 earns 4% annual interest, and Account 2 earns 6% annual interest. If both start with \$1,500, which earns more interest?

- ☐ A. Account 1 (higher rate always wins) ☐ C. Both earn equally
☐ B. Cannot be determined without ☐ D. Account 2 (higher rate always wins)
 more time

- 6) The number line shows a move. Which operation does it represent?



- ☐ A. $1 - 3$ ☐ C. $1 + (-3)$
☐ B. $1 - (-4)$ ☐ D. $1 + 3$
- 7) Divide $-2\frac{1}{2} \div (-\frac{5}{6})$.

- ☐ A. -3 ☐ C. $\frac{5}{4}$
☐ B. 3 ☐ D. $-\frac{5}{4}$



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 A is correct. **(7.G.4-7.G.6)** $C = \pi d = \frac{22}{7} \times 24 = \frac{528}{7} \approx 75.43$ in. Distance = $20 \times 75.43 \approx 1507$ in.
- 2) Choice D is correct. **(7.RP.3)** Interest: $4900 - 4000 = \$900$. $900 = 4000 \times r \times 5 \Rightarrow 900 = 20000r \Rightarrow r = 0.04 = 4\%$.
- 3) Choice D is correct. **(7.NS.1-7.NS.3)** $-6 - (-4) = -6 + 4 = -2$.
- 4) The correct answer is \$720. **(7.RP.1-7.RP.3)** Use $18 \times 40 = 720$ dollars.
- 5) Choice C is correct. **(7.RP.3)** 22% of 400 is $0.22 \times 400 = 88$ books.
- 6) Choice C is correct. **(7.NS.1b)** Model descent as $800 + (-950) = -150$. The negative result means 150 feet below ground level.
- 7) Choice D is correct. **(7.EE.1-7.EE.2)** Substitute: $4(3) - 5 + 2 = 12 - 5 + 2 = 9$.
- 8) Choice C is correct. **(7.SP.1-7.SP.4)** $162^\circ \div 360^\circ \times 100 = 45\%$.
- 9) Choice D is correct. **(7.RP.1-7.RP.3)** At 12 km/h: $0.5 \times 12 = 6$, $1 \times 12 = 12$, $1.5 \times 12 = 18$. But $2 \times 12 = 24 \neq 25$.
- 10) Choice C is correct. **(7.RP.1-7.RP.3)** Proportional relationships have the form $y = kx$ (passing through the origin). Option C has a $+2$ term, so it does not pass through $(0, 0)$ and is not proportional.
- 11) Choice C is correct. **(7.NS.2d)** Divide $1 \div 3 = 0.333\dots$. The 3 repeats forever, written as $0.\overline{3}$. Since 3 is not a factor of 2 or 5, it is repeating.
- 12) Choice D is correct. **(7.RP.1-7.RP.3)** $\frac{5}{8} \div \frac{3}{4} = \frac{5}{8} \times \frac{4}{3} = \frac{20}{24} = \frac{5}{6}$.
- 13) Choice C is correct. **(7.RP.3)** Set up $\frac{16}{20} = \frac{p}{100}$. Simplifying: $\frac{16}{20} = \frac{4}{5} = \frac{80}{100} = 80\%$.
- 14) Choice A is correct. **(7.RP.3)** Increase = $(\$2,500 - \$2,400) \div \$2,400 = \$100 \div \$2,400 \approx 0.0417 = 4.17\% \approx 4.2\%$.
- 15) Choice C is correct. **(7.NS.1-7.NS.3)** $-75 + 120 = 45$ dollars.
- 16) Choice B is correct. **(7.NS.1-7.NS.3)** $\frac{1}{5} \div \frac{1}{3} = \frac{1}{5} \times \frac{3}{1} = \frac{3}{5}$.
- 17) The correct answer is 31.25. **(7.RP.1-7.RP.3)** $50 \text{ m} = 5000 \text{ cm}$. Divide by scale: $5000 \div 160 = 31.25 \text{ cm}$.
- 18) The correct answer is A,C. **(7.SP.1-7.SP.4)** Sample 1: $\frac{48}{200} = 0.24$; Sample 2: $\frac{36}{150} = 0.24$; Sample 3: $\frac{60}{250} = 0.24$. All are equal, so A is correct. These proportions can be used to estimate the full population (C). B is false (all equal), D is misleading, and E contradicts the actual data.
- 19) Choice A is correct. **(7.NS.1-7.NS.3)** Loss of \$12.50 per week for 5 weeks: $-12.50 \times 5 = -62.50$ dollars.
- 20) Choice C is correct. **(7.NS.1-7.NS.3)** With the same coefficient, the number with the most negative exponent is the smallest. -6 is most negative.
- 21) Choice A is correct. **(7.SP.5-7.SP.8)** $P(A) = \frac{1}{2} = 0.5$ is the largest probability. $B = 0.25$, $C = D = 0.125$.
- 22) Choice A is correct. **(7.NS.2)** $-\frac{7}{8} \times 8 = \frac{-7 \times 8}{8} = -7$. The 8's cancel.
- 23) Choice B is correct. **(7.NS.1-7.NS.3)** $\sqrt{16} = 4 \text{ cm}$ since $4 \times 4 = 16$.
- 24) Choice A is correct. **(7.EE.1-7.EE.2)** $85(1.15) = 85 + 0.15(85) = 85 + 12.75 = 97.75$.
- 25) Choice A is correct. **(7.SP.3)** Predictability requires consistent behavior. Model X's concentration at 18–20 hours makes it predictable. Model Y's spread (12–24 hours) is too wide to predict reliably.
- 26) Choice D is correct. **(7.RP.3)** Session cost = $100 \times 3 = \$300$. Editing fee = $0.20 \times 300 = \$60$. Total = $300 + 60 = \$360$.
- 27) Choice C is correct. **(7.RP.3)** Savings: $\$2500 - \$1950 = \$550$ remaining after expenses.
- 28) Choice D is correct. **(7.G.4-7.G.6)** The pentagon is already decomposed. Trapezoid: $\frac{1}{2}(12 + 12) \times 6 = 72 \text{ sq units}$. Triangle (top): $\frac{1}{2} \times 6 \times 3 = 9 \text{ sq units}$. Add them: $72 + 9 = 81 \text{ sq units}$.
- 29) Choice C is correct. **(7.RP.1-7.RP.3)** Gallons needed: $350 \div 28 = 12.5$ gallons. Total cost: $12.5 \times 3.20 = 40$ dollars.
- 30) Choice C is correct. **(7.RP.3)** Simple: $600 \times 0.05 \times 3 = 90$. Compound: $600(1.05)^3 = 694.58$; interest = 94.58 . Difference: $94.58 - 90 = 4.58$.
- 31) Choice C is correct. **(7.RP.1-7.RP.3)** A proportional relationship has form $y = kx$. Only option C fits this pattern with $k = \frac{3}{4}$.



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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 5 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 **5** 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:

5 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.



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