

9 Oregon OSAS

GRADE 7

MATH

PRACTICE TESTS

Standards Aligned Problem Solving
For Comprehensive Assessment Programs

Program



**9 PRINTED
TESTS**



**2 ONLINE
TESTS**



Use these two additional online practice tests
for **extra review** after the printed tests in this book.



BUILT FOR ACAP
Standards-Aligned



**STRENGTHEN
SKILLS**



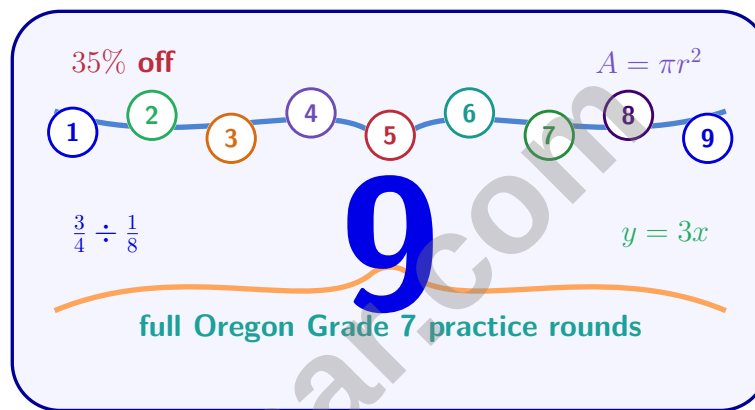
**SHARPEN
THINKING**



BE TEST-READY
Improve Performance

9 Oregon OSAS Grade 7 Math Practice Tests

*Standards-Aligned Oregon Practice for Proportional Reasoning, Expressions, Geometry,
Statistics, and Probability*



Nine complete 40-question Grade 7 OSAS 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, Oregon Grade 7 Problem Solver!

Nine focused rounds for sharper OSAS math thinking

This book gives you nine full Grade 7 OSAS 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 Oregon 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 nine-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.

Oregon 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?

Nine OSAS tests, 360 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 7–9	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 composite figure consists of three rectangles stacked horizontally: $5\text{ m} \times 3\text{ m}$, $5\text{ m} \times 3\text{ m}$, and $5\text{ m} \times 3\text{ m}$. What is the total area?

☐ A. 15 m^2
☐ C. 35 m^2
☐ B. 30 m^2
☐ D. 45 m^2

- 2) Two box plots show the test scores of Class A (median = 82, range = 30) and Class B (median = 78, range = 14). The box plot for Class A spans from 67 to 97; Class B spans from 71 to 85. Which statement is best supported by the visuals?

☐ A. Class A and Class B score ranges overlap from 71 to 85

☐ C. Class B is always worse regardless of median

☐ B. Class A's scores varied more and its typical score was higher

☐ D. Class A has higher minimum but Class B more consistent

- 3) A carpenter charges \$180 for 6 hours of work. What is the hourly rate?

- 4) A researcher flipped three coins 160 times and recorded how many came up heads each time:

Heads Count	0	1	2	3
Frequency	22	56	62	20

What is the experimental probability of getting exactly 2 heads?

☐ A. $\frac{2}{3}$
☐ C. 0.31

☐ B. $\frac{62}{160}$
☐ D. 0.39


5) A fair coin is flipped twice. What is the probability of getting heads BOTH times?

☐ A. $\frac{1}{8}$

☐ B. $\frac{1}{4}$

☐ C. $\frac{1}{2}$

☐ D. $\frac{3}{4}$

6) Which of the following is always true about a chord?

☐ A. It must pass through the center☐ C. It is always shorter than the radius☐ B. It has both endpoints on the circle☐ D. It is parallel to a diameter

7) Which fraction is equivalent to a probability of 0.75?

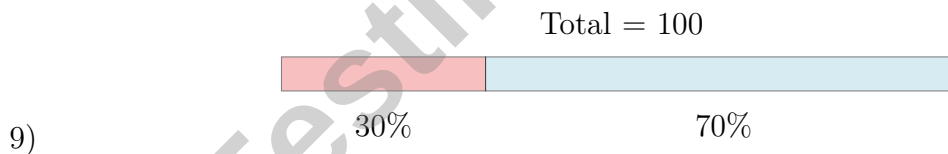
☐ A. $\frac{1}{4}$

☐ B. $\frac{3}{4}$

☐ C. $\frac{1}{2}$

☐ D. $\frac{4}{5}$

8) A blueprint scale is $\frac{1}{4}$ inch to 1 meter. Two points on the blueprint are 3 inches apart. How far apart are they in meters?

☐ A. 3 meters☐ C. 12 meters☐ B. 0.75 meters☐ D. 1.33 meters

The bar model shows 30% and 70% of a total. If the total is 100, how much is 30%?

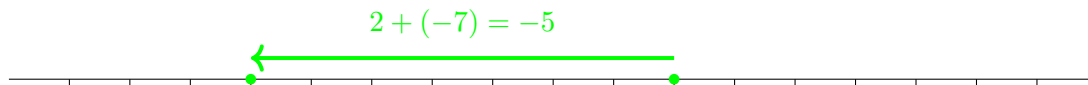
☐ A. 25☐ C. 35☐ B. 40☐ D. 30

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10) A bond pays \$360 in simple interest on a principal of \$2000 over 3 years. What is the annual interest rate?

☐ A. 4%☐ C. 6%☐ B. 5%☐ D. 7.2%

11) Which addition problem results in a sum of -5 ?

☐ A. $8 + (-3)$ ☐ C. $-1 + 6$ ☐ B. $-9 + 3$ ☐ D. $2 + (-7)$

12) A random sample of 160 cars showed 56 had a sunroof. The county has 8000 registered cars. About how many have a sunroof?

13) A circle graph shows website traffic sources. Direct traffic is 15%, organic search is 50%, paid ads is 20%, and referrals is 15%. If there are 10,000 monthly visitors, how many come from organic search?

☐ A. 1500☐ C. 5000☐ B. 2000☐ D. 7500

- 1) A box plot compares video game scores (in points) for two players. Player A: Median = 1500, Q1 = 1200, Q3 = 1800. Player B: Median = 1400, Q1 = 1100, Q3 = 2000. Which player has more consistent performance?

- ☐ A. Player A (smaller IQR: 600 vs. 900) ☐ C. Both players have identical consistency
☐ B. Player B (higher third quartile) ☐ D. Player B (higher maximum score)

- 2) Two stores sell beans at different rates. Which store offers the better price?

Store	Cost	Amount
Store A	\$2	$\frac{1}{2}$ lb
Store B	\$3	$\frac{2}{3}$ lb

- ☐ A. Store A at \$3.60/lb ☐ C. They cost the same
☐ B. Store B at \$4.50/lb ☐ D. Store A at \$4/lb
- 3) The constant of proportionality between d (distance) and t (time) is 55 mph. Which equation models this relationship?

- ☐ A. $d = 55 + t$ ☐ C. $t = 55d$
☐ B. $d = \frac{t}{55}$ ☐ D. $d = 55t$

- 4) A proportional relationship is $y = \frac{3}{5}x$. When $x = 25$, what is y ?

- ☐ A. $y = 12$ ☐ C. $y = 18$
☐ B. $y = 20$ ☐ D. $y = 15$



- 5) A salesperson earns a 7% commission on all sales. This month, the salesperson sold \$4,000 worth of merchandise. What is the commission earned?

- 6) Which of the following represents a proportional relationship?

- ☐ A. $y = x^2$ ☐ C. $y = \frac{3}{4}x$
☐ B. $y = 7x - 3$ ☐ D. $y = x + 5$

- 7) Factor: $-6x - 9$

- ☐ A. $-3(2x + 3)$ ☐ C. $-3(2x - 3)$
☐ B. $3(-2x - 3)$ ☐ D. $6(-x - 1.5)$

- 8) A rectangular prism has dimensions 9 in $\times$ 3 in $\times$ 6 in. What is the surface area?

- ☐ A. 54 in² ☐ C. 198 in²
☐ B. 108 in² ☐ D. 324 in²

- 9) Simplify: $2p^2 + 3p + 4p^2 + 2p$

- ☐ A. $11p^3$ ☐ C. $6p + 8p^2$
☐ B. $6p^2 + 5p$ ☐ D. $9p^2$

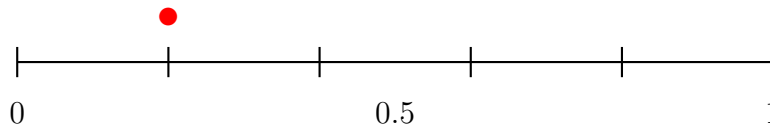
- 10) A company has 1000 employees. To find the average salary, it surveys 100 randomly selected employees. The average salary from these 100 employees is called a:

- ☐ A. parameter ☐ C. sample statistic
☐ B. population mean ☐ D. bias measure



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1) Which event best represents the probability shown on this scale?



- | | |
|--|---|
| ☐ A. Flipping heads on a fair coin | ☐ D. Rolling an odd number on a standard die |
| ☐ B. Rolling a 6 on a standard die | |
| ☐ C. Drawing a spade from a shuffled deck | |

2) Convert 3,400,000,000 to scientific notation.

3) An ice cream shop charges \$6 for a cone and \$1.50 for each extra topping. If the bill is \$13.50, which equation finds t , the number of extra toppings?

- | | |
|---|---|
| ☐ A. $1.50t + 6 = 13.50$ | ☐ C. $1.50 + 6t = 13.50$ |
| ☐ B. $6t + 1.50 = 13.50$ | ☐ D. $6(t + 1.50) = 13.50$ |

4) A photograph is scaled down by a factor of $\frac{1}{4}$. If the original photograph is 8 inches wide, what is the width of the scaled version?

- | | |
|--------------------------------------|--------------------------------------|
| ☐ A. 1 inch | ☐ C. 4 inches |
| ☐ B. 2 inches | ☐ D. 6 inches |



- 5) A hexagonal prism has a regular hexagonal base with side 4 cm. It is sliced by a plane parallel to the hexagonal bases. What is the shape of the cross-section?
- ☐ A. Regular hexagon congruent to the base ☐ C. Irregular hexagon
☐ B. Rectangle ☐ D. Pentagon
- 6) If angle x and angle y are complementary, and $x = 37^\circ$, what is y ?
- ☐ A. 53° ☐ C. 37°
☐ B. 43° ☐ D. 143°
- 7) Which of the following is an example of a rigid transformation (one that preserves distance and angles)?
- ☐ A. Reflection over the x -axis ☐ C. Rotation of 45°
☐ B. Dilation by a factor of 2 ☐ D. Shearing the figure
- 8) Two similar figures have corresponding sides in the ratio 5 : 8. If the smaller figure has an area of 50 square inches, what is the area of the larger figure?
- ☐ A. 80 square inches ☐ C. 128 square inches
☐ B. 100 square inches ☐ D. 200 square inches
- 9) A party planner charges \$12 per person for p people. A \$25 setup fee applies to each group of people. If the total is \$97, which equation correctly shows this cost structure?
- ☐ A. $12(p + 25) = 97$ ☐ C. $12p + 25 = 97$
☐ B. $(12 + 25)p = 97$ ☐ D. $25(12 - p) = 97$



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Oregon OSAS 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 Oregon OSAS practice test.



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Practice Test Answers and Explanations

Practice Test 1 Answers and Explanations

- 1) **Choice D is correct.** (7.G.4-7.G.6) Each rectangle: $5 \times 3 = 15 \text{ m}^2$. Three rectangles: $15 \times 3 = 45 \text{ m}^2$.
- 2) **Choice B is correct.** (7.SP.3) Class A's range of 30 (67–97) is larger than Class B's range of 14 (71–85), showing greater variability. Class A's median (82) is higher than Class B's (78). Despite overlap at 71–85, Class A is higher and more variable overall.
- 3) **The correct answer is 30.** (7.RP.1-7.RP.3) Hourly rate = $180 \div 6 = 30$ dollars per hour.
- 4) **Choice B is correct.** (7.SP.6) Getting exactly 2 heads occurred 62 times in 160 trials. Experimental probability = $\frac{62}{160} = 0.3875 \approx 0.39$.
- 5) **Choice B is correct.** (7.SP.5-7.SP.8) $P(H) \cdot P(H) = \frac{1}{2} \cdot \frac{1}{2} = \frac{1}{4}$.
- 6) **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.
- 7) **Choice B is correct.** (7.SP.5-7.SP.8) $\frac{3}{4} = 0.75$. Dividing $3 \div 4 = 0.75$.
- 8) **Choice C is correct.** (7.RP.1-7.RP.3) If $\frac{1}{4}$ inch = 1 meter, then 1 inch = 4 meters. So $3 \times 4 = 12$ meters.
- 9) **Choice D is correct.** (7.RP.3) 30% of 100 is $0.30 \times 100 = 30$.
- 10) **Choice C is correct.** (7.RP.3) $360 = 2000 \times r \times 3 \Rightarrow 360 = 6000r \Rightarrow r = 0.06 = 6\%$.
- 11) **Choice D is correct.** (7.NS.1b) Check each: A: $8 + (-3) = 5$. B: $2 + (-7) = -5$ ✓. C: $-1 + 6 = 5$. D: $-9 + 3 = -6$. Only B equals -5 .
- 12) **The correct answer is 2800.** (7.SP.1-7.SP.4) $\frac{56}{160} = \frac{x}{8000}$. Reduce: $\frac{7}{20} = \frac{x}{8000} \Rightarrow x = 2800$.
- 13) **Choice C is correct.** (7.SP.1-7.SP.4) 50% of 10,000 = $0.50 \times 10,000 = 5000$ visitors.
- 14) **Choice D is correct.** (7.RP.1-7.RP.3) $\frac{1/4}{2/3} = \frac{1}{4} \times \frac{3}{2} = \frac{3}{8}$, so the ratio is 3 : 8.
- 15) **Choice D is correct.** (7.RP.1-7.RP.3) The ratio is $y/x = 2/6 = 1/3$. For a fourth point: $y = \frac{x}{3}$. Check: (15, 5) gives $5 = \frac{15}{3}$ (correct).
- 16) **Choice D is correct.** (7.RP.3) The pattern increases by \$25 each month: Jan \$25, Feb \$50, Mar \$75, Apr \$100, May \$125.
- 17) **Choice C is correct.** (7.NS.1-7.NS.3) Net change: $2.5 + (-1.3) = 1.2$ kg net gain.
- 18) **Choice A is correct.** (7.NS.1-7.NS.3) Depth = $-2.25 \times 8 = -18$ m (18 meters below sea level).
- 19) **Choice C is correct.** (7.G.1-7.G.5) A plane perpendicular to the lateral edges of an oblique prism creates a cross-section congruent to the base. Since the base is a parallelogram, the cross-section is also a parallelogram.
- 20) **Choice D is correct.** (7.RP.1-7.RP.3) The ratio flour:sugar is 2 : 3, so $f = \frac{2}{3}s$ where the constant of proportionality is $\frac{2}{3}$.
- 21) **Choice D is correct.** (7.NS.1-7.NS.3) Side length: $s = \sqrt{256} = 16$ meters. Perimeter = $4s = 4(16) = 64$ meters.
- 22) **The correct answer is A,D.** (7.G.4-7.G.6) A is correct because $V = Bh$, so $h = V/B$. D is correct because volume is measured in cubic units. B is false because $2 \times 3 \times 5 = 30 \text{ m}^3$, not 10 m^3 . C is false because the base shape affects the base area.
- 23) **Choice A is correct.** (7.EE.1-7.EE.2) Subtract: $(3x + 5) - (2x - 1) = 3x + 5 - 2x + 1 = x + 6$ miles farther.
- 24) **Choice D is correct.** (7.EE.4a) Game is \$60 plus \$9.99 per bundle. Equation: $9.99b + 60 = 99.96$.
- 25) **Choice B is correct.** (7.EE.4a) Distribute: $2x - 10 = 14$. Add 10: $2x = 24$. Divide by 2: $x = 12$.
- 26) **Choice A is correct.** (7.G.1-7.G.5) Original scale 1:0.75 means 1 cm = 0.75 km. New scale 1:1.5 means 1 cm = 1.5 km. Real-world distance per cm doubled (0.75 to 1.5), so drawing shrinks. Scale factor ratio: $1.5 \div 0.75 = 2$, so drawing shrinks by $1 \div 2 = 0.5$. New length: $12 \times 0.5 = 6$ cm (or $12 \div 2 = 6$ cm).
- 27) **Choice C is correct.** (7.NS.2) Descent of 2.5 floors per second: $(-2.5) \times 3 = -7.5$ floors.
- 28) **Choice B is correct.** (7.EE.1-7.EE.2) Distribute: $6x - 15 + 2x + 8$. Combine: $(6x + 2x) + (-15 + 8) = 8x - 7$.
- 29) **Choice C is correct.** (7.SP.1-7.SP.4) Values in the range: 31, 34, 34, 37 (all from stem 3) = 4 values.
- 30) **Choice D is correct.** (7.RP.3) Total: $\$3600 + \$1200 = \$4800$. Vacation percent: $\frac{1200}{4800} = 0.25 = 25\%$.



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Hi, Confident Learner!

◇ This high-stamina book gave you nine substantial Grade 7 practice tests, so you had repeated chances to build accuracy, pacing, and confidence. Grade 7 math can feel big because it brings together rational numbers, expressions, equations, geometry, probability, and data. ◇

★ **Remember this:** But big topics become manageable when you practice one skill at a time. That is what you have been doing with every test in this book. ★

Confidence Builders

- **Know the Goal:** Identify what the question asks.
- **Use Vocabulary:** Math words point to math actions.
- **Show Work:** Give yourself something to check.
- **Celebrate Effort:** Practice is proof that you are moving.

Grade 7 test-day tip: When reviewing, do not only mark wrong answers. Write one sentence about what you learned from each one.

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

Jay Daie

Your Confidence Coach

PRACTICE TODAY. SUCCEED TOMORROW!

This book includes **9** 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:

9 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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