

5

Ohio OST

GRADE 6 MATH

PRACTICE TESTS

Standards Aligned Problem Solving
For Comprehensive Assessment Programs



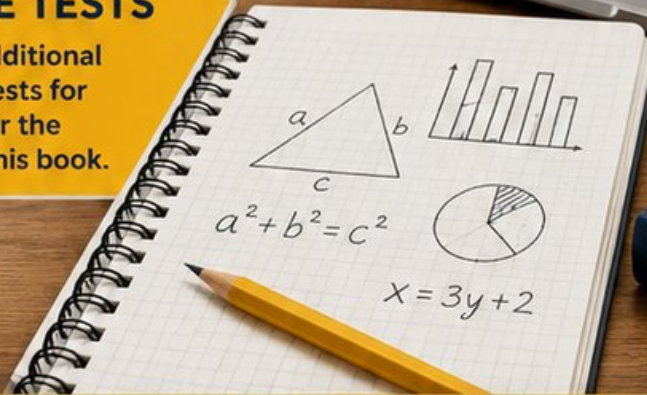
5 PRINTED TESTS

- ✓ Full-Length Practice Tests
- ✓ Realistic Questions
- ✓ Answer Key & Explanations



+ 2 ONLINE TESTS

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



PREPARE • PRACTICE • SUCCEED



5 Ohio OST Grade 6 Math Practice Tests

Standards-Aligned Buckeye-State Problem Solving for Ohio's State Tests



Five complete 40-question Grade 6 practice rounds for OST, built for Buckeye-state problem solving with ratios, rational numbers, expressions, equations, geometry, statistics, answer keys, and clear explanations for every item.

Jay Daie and Reza Nazari



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Welcome, Ohio Math Explorer!

Eight focused rounds using Buckeye-state problem solving

This book gives you five full Grade 6 practice tests for OST. Each round uses lake edges, city routes, and classroom-ready strategy as a fresh mental backdrop while you read closely, choose a smart strategy, show your work, and check whether your answer makes sense.

Your Ohio Practice Promise

Use a clear game plan: underline the task, write the math, and check the choice.

Read

Plan

Check

How to Use This Book

A five-session routine for Buckeye-state problem solving

1. **Work in order.** Take one 40-question test at a time in a quiet place.
2. **Preview the skills.** Scan the quick review pages before beginning the first round.
3. **Correct actively.** Retry missed items before reading the full explanation.
4. **Mark confidence.** Put a small star beside problems where your plan felt strong.
5. **Plan the next round.** Use the growth log to choose one habit and one skill to practice.

Ohio review rhythm: Take a round, review what changed your answer, and carry that habit forward.



What Is Inside?

Eight OST tests, 320 questions, and a full review path

Part	What You Will Practice
Tests 1–2	Foundation rounds for ratios, rational numbers, operations, and careful reading.
Tests 3–4	Skill-building rounds with expressions, equations, geometry, data, and problem models.
Test 5	Final stamina round for mixed review, neat work, and flexible strategy choices.
Answer Pages	Compact keys and explanations that show why each answer works.

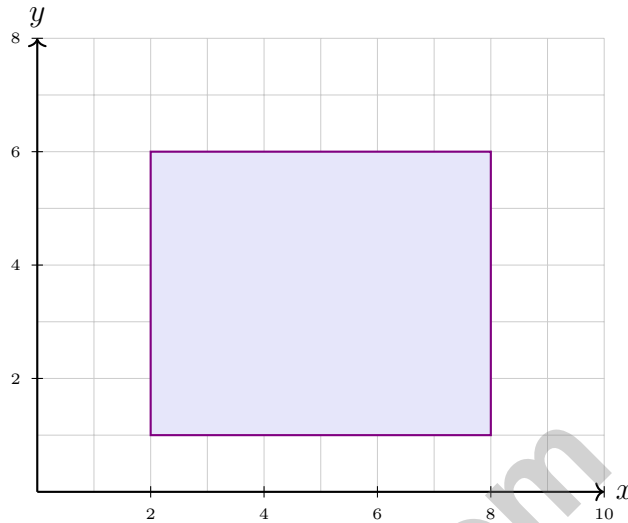
The tests are mixed on purpose. Buckeye-state problem solving means recognizing the skill even when the next question changes topic, changes format, or asks for an explanation.



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For more practice
& answers

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1)

What is the area of the rectangle with vertices at $(2, 1)$, $(8, 1)$, $(8, 6)$, and $(2, 6)$?

- A. 24 square units C. 36 square units
 B. 30 square units D. 40 square units

2) From the pie chart above, how much does Aisha allocate to food and utilities combined?

- A. \$400 C. \$800
 B. \$600 D. \$900

3) A package of meat weighs 1.2 kilograms. How many grams is this?

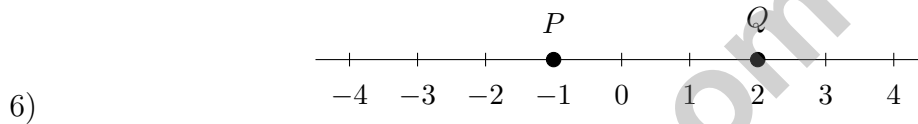
- A. 12 grams C. 1,200 grams
 B. 120 grams D. 12,000 grams



4) When the point (a, b) is reflected across the y -axis, the new point is:

- A. $(-a, b)$ C. $(-a, -b)$
 B. $(a, -b)$ D. (b, a)

5) Write 0.15 as a percent.



What is the relationship between points P and Q ?

- A. $P > Q$ C. $P = Q$
 B. P is 3 units greater D. $P < Q$

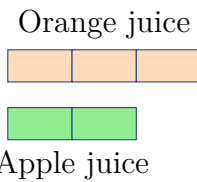
7) Which pair of ratios are NOT equivalent?

- A. $2 : 5$ and $4 : 10$ C. $4 : 8$ and $1 : 3$
 B. $3 : 7$ and $6 : 14$ D. $5 : 6$ and $10 : 12$



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8) The diagram shows a ratio bar for juice boxes.



Each box represents 1 unit.

What is the ratio of orange juice boxes to apple juice boxes?

- A. 2 : 3 C. 1 : 3
 B. 3 : 1 D. 3 : 2

9) A car travels 225 miles on 9 gallons of gas. What is the fuel efficiency in miles per gallon?

- A. 20 miles per gallon C. 25 miles per gallon
 B. 22 miles per gallon D. 45 miles per gallon

10) A juice company sells juice in two sizes. A 48-ounce bottle costs \$8.00. A 64-ounce bottle costs \$9.60. Which is the better value per ounce?

- A. 48-oz at \$0.17/oz C. 64-oz at \$0.15/oz
 B. 48-oz at \$0.15/oz D. 64-oz at \$0.17/oz



1)

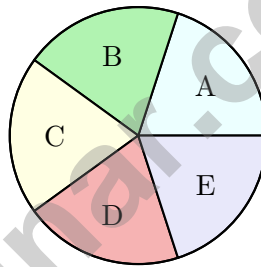
Bags	2	4	6	8
Apples	14	28	42	56

Based on the table, what is the unit rate in apples per bag?

- A. 5 apples per bag C. 14 apples per bag
 B. 7 apples per bag D. 28 apples per bag

2) In a box plot, what portion of the data is represented by the upper whisker only?

- A. The bottom 25% C. The top 25%
 B. The middle 50% D. All of the data



3)

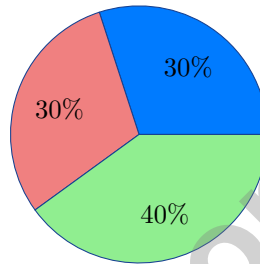
A spinner has 5 equal sections labeled A, B, C, D, and E. What is the probability of spinning A?

- A. $\frac{1}{5}$ C. $\frac{1}{3}$
 B. $\frac{2}{5}$ D. $\frac{1}{2}$



4) A student reads data from a stem-and-leaf plot and says: "The median is 55 and there are 11 data points." Based only on this information, what position is the median value in the ordered list?

- A. Position 5 C. Position 7
 B. Cannot determine from given information D. Position 6



5)

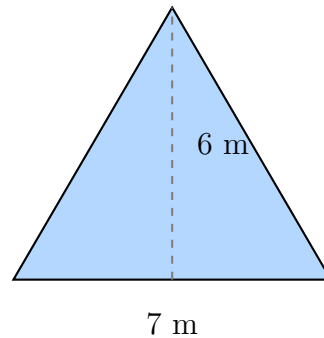
A circle graph shows survey results from 250 people. Which section represents the most people?

- A. The 40% section with 100 people. C. The 30% section with 50 people.
 B. The 30% section with 75 people. D. Both 30% sections equally.



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- 1) An acute triangle has a base of 7 meters and a height of 6 meters. What is its area?



- A. 13 m^2 C. 42 m^2
 B. 21 m^2 D. 84 m^2
- 2) Find the median of: 2, 8, 4, 6, 10, 5, 3.
- A. 4 C. 6
 B. 5 D. 7
- 3) In the data set 5, 7, 7, 9, 11, what is the median?
- A. 5 C. 9
 B. 7 D. 11
- 4) Which part of a box plot represents the bottom 25% of the data?
- A. The lower whisker. C. The median line.
 B. The left side of the box. D. The upper whisker.



5) A spinner is divided into 4 equal sections colored red, blue, green, and yellow. What is the probability of spinning red or blue?

A. 0.25

C. 0.5

B. 0.33

D. 0.75

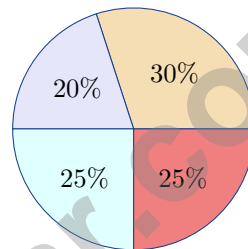
6) A student records the number of minutes spent on homework: 24, 31, 28, 35, 29, 32, 26. Arranging in a stem-and-leaf plot, the data spans:

A. One stem (20s)

C. Three stems

B. Two stems (20s and 30s)

D. Cannot determine



7)

What is the central angle for the 20% section in this circle graph?

A. 54°

C. 72°

B. 90°

D. 108°



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Ohio OST Practice Test Answer Keys

How to use this Ohio OST answer section with a Grade 6 student:

1. check the answer first, then write one quick reason the choice is correct
2. mark questions to try again, especially the skills that feel connected to Buckeye-state problem solving

3. rework the problem before reading the full explanation, using this reminder:
Use a clear game plan: underline the task, write the math, and check the choice.

A calm Ohio correction routine turns every missed item into useful practice. Take a round, review what changed your answer, and carry that habit forward.



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Ohio Practice Test Answers and Explanations

Review the five printed OST tests with prepared, steady, and ready for the next question habits.

Practice Test 1 Answers and Explanations

- 1) **Choice B is correct.** **(6.G.1)** Width: $8 - 2 = 6$ units. Height: $6 - 1 = 5$ units. Area = $6 \times 5 = 30$ square units.
- 2) **Choice D is correct.** **(6.EE.9)** Food and utilities: $25\% + 20\% = 45\%$ of $\$2000 = 0.45 \times 2000 = \900 .
- 3) **Choice C is correct.** **(6.RP.3d)** Multiply: $1.2 \times 1000 = 1200$ grams.
- 4) **Choice A is correct.** **(6.NS.8)** Reflecting across the y -axis flips the x -coordinate to its opposite, giving $(-a, b)$.
- 5) **The correct answer is 15%.** **(6.NS.3)** Move the decimal two places right: $0.15 = 15\%$.
- 6) **Choice D is correct.** **(6.NS.7d)** P is at -1 and Q is at 2 . Since $-1 < 2$, point P is less than point Q .
- 7) **Choice C is correct.** **(6.RP.1)** Simplify the first ratio in the pair: $4 : 8$ becomes $1 : 2$. Since $1 : 2$ is not the same as $1 : 3$, this pair is not equivalent.
- 8) **Choice D is correct.** **(6.RP.3)** The diagram shows 3 orange boxes and 2 apple boxes. Since orange comes first, the ratio is $3 : 2$.
- 9) **Choice C is correct.** **(6.RP.3d)** Divide distance by gallons: $225 \div 9 = 25$ miles per gallon.
- 10) **Choice C is correct.** **(6.RP.3b)** 48-oz: $\$8.00 \div 48 \approx \$0.167/\text{oz}$. 64-oz: $\$9.60 \div 64 = \$0.15/\text{oz}$. The 64-oz bottle has the better (lower) unit price.
- 11) **Choice C is correct.** **(6.RP.3)** The ratio is $2 : 5$. When sweaters are 10 (multiply by 5), t-shirts are $5 \times 5 = 25$.
- 12) **Choice A is correct.** **(6.RP.3a)** The vertical axis is scaled in groups of 50 miles. So 50 miles is shown as 1, 100 miles as 2, and 150 miles as 3, giving the points $(1, 1)$, $(2, 2)$, and $(3, 3)$.
- 13) **Choice C is correct.** **(6.RP.3c)** $\frac{3}{6} = \frac{1}{2} = \frac{50}{100} = 50\%$.
- 14) **Choice D is correct.** **(6.RP.3c)** Increase is $\$44,000 - \$40,000 = \$4,000$. Percent increase is $\frac{4000}{40000} = 0.10 = 10\%$.
- 15) **Choice A is correct.** **(6.RP.3)** Ratio $3 : 5$ means 3 parts boys and 5 parts girls, totaling 8 parts. Each part = $40 \div 8 = 5$ students, so there are $3 \times 5 = 15$ boys and $5 \times 5 = 25$ girls. Sam swapped the two values.
- 16) **Choice B is correct.** **(6.NS.7d)** A credit card allows you to borrow money and pay it back later. Options A, C, and D describe debit transactions or cash withdrawals.
- 17) **Choice A is correct.** **(6.NS.7d)** For a proportional relationship, when hours = 0, pay must = 0. Here, when hours = 0, pay = $\$5$ (a fixed fee), so the relationship is not proportional. The equation is $p = 5h + 5$, which includes a non-zero constant term.
- 18) **Choice C is correct.** **(6.RP.3)** Multiply: $5 \times 2 = 10$ feet.
- 19) **The correct answer is The median divides the box into two 25% regions, and the upper whisker holds the top 25%.** **(6.RP.1)** B is correct: the median line splits the box so each half represents 25% of the middle 50% (thus 25% each). D is correct: the upper whisker extends from Q_3 to the max, representing the top 25%. A is wrong (lower whisker is bottom 25%, not 50%). C is incorrect (75% of data is at or below Q_3 , not above it). E is false (IQR is $Q_3 - Q_1$, not the range).
- 20) **Choice C is correct.** **(6.NS.1)** $\frac{7}{8} \times \frac{4}{1} = \frac{28}{8} = \frac{7}{2} = 3\frac{1}{2}$.
- 21) **Choice B is correct.** **(6.NS.2)** $6,300 \div 48 = 131$ remainder 12. So 131 shelves are filled completely.
- 22) **Choice A is correct.** **(6.NS.3)** Compare: $0.83 = 0.830 > 0.800 > 0.380 > 0.308$. Order from greatest to least: 0.83, 0.8, 0.38, 0.308.
- 23) **Choice A is correct.** **(6.NS.4)** The student confused the larger number with the GCF. Factors of 18: 1, 2, 3, 6, 9, 18. Factors of 24: 1, 2, 3, 4, 6, 8, 12, 24. Common: 1, 2, 3, 6. GCF is 6, not 24.
- 24) **Choice A is correct.** **(6.NS.4)** $7 \times 18 = 7(10 + 8) = 7 \cdot 10 + 7 \cdot 8 = 70 + 56 = 126$.
- 25) **Choice B is correct.** **(6.NS.5)** Moving left means subtracting. The number is $-2 - 5 = -7$.
- 26) **Choice A is correct.** **(6.NS.7c)** Computing: $|-2| = 2$, $|-5| = 5$, $|6| = 6$, $|-9| = 9$. In order: $2 < 5 < 6 < 9$.



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From Your Math Family

Hi, Math Family Member,

◇ Welcome to a special note from your math family. You finished 5 full practice tests, and that hard work matters more than any score. We see you. We are proud of you. ◇

★ **Our math family knows:** math is a journey. You have taken many steps already. The test is just one stop. Every skill you built is yours forever. ★

What Your Math Family Sees

- **Hard Work:** You keep showing up.
- **Real Growth:** You can do problems today you couldn't before.
- **Brave Heart:** You face hard problems with brave thinking.
- **Bright Future:** Your math journey is just beginning.

Family tip: on test day, picture us standing behind you, smiling and rooting for you. You are not alone. Your math family is with you!

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

Jay Daie

Your Math Family

PRACTICE MORE. ACHIEVE MORE.

This book provides **5 full-length Math practice tests** designed to help Grade 6 students strengthen their skills, build confidence, and excel on standardized assessments.

Each test is carefully crafted to reflect the latest standards and covers a wide range of math topics with realistic questions and detailed answer explanations.



BUILD CONFIDENCE

Practice builds familiarity and reduces test anxiety.



IMPROVE ACCURACY

Sharpen skills and avoid common mistakes.



ACHIEVE SUCCESS

Consistent practice leads to greater results.

WHAT'S INSIDE?



5 Full-Length Practice Tests

Realistic tests designed to mirror actual exam conditions.



Realistic Questions

A variety of question types to strengthen problem-solving skills.



Answer Keys & Explanations

Detailed solutions to help students learn and improve.



Performance Tracking

Track progress and identify areas that need improvement.



Comprehensive Coverage

All essential topics aligned with Grade 6 math standards.



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