

6 MAINE

Through Year Assessment

GRADE

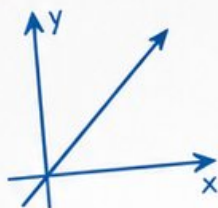
7

MATH

PRACTICE TESTS

Standards Aligned
Problem Solving For
Comprehensive
Assessment Programs

$$y = mx + b$$



$$2(x - 3) = 4x + 6$$



6 PRINTED TESTS



2 ONLINE TESTS



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



Build
Confidence



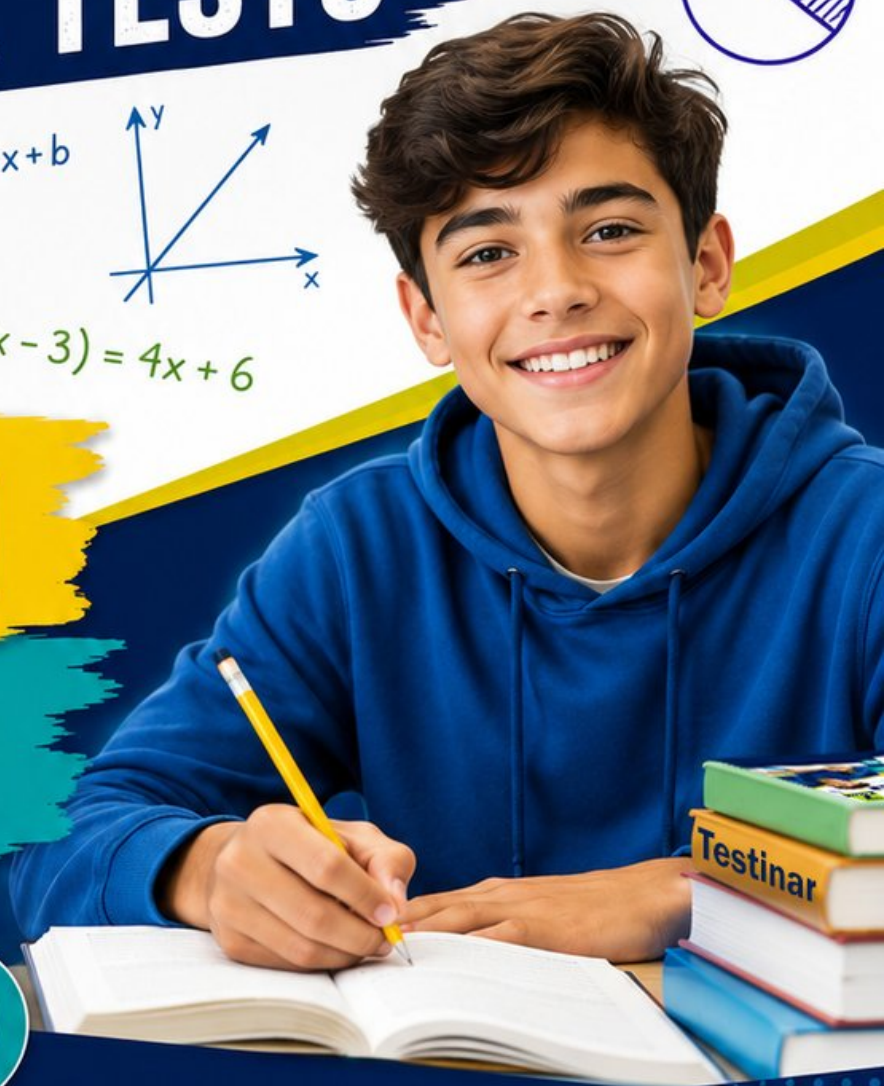
Strengthen
Math Skills



Detailed Answers
& Explanations

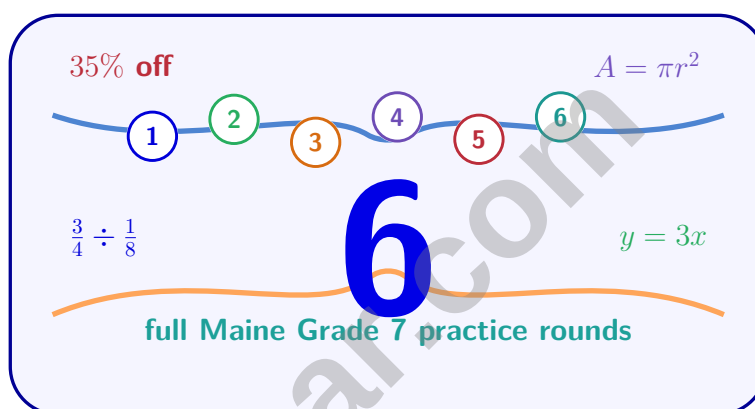


Improve Test
Performance



6 Maine Through Year Assessment Grade 7 Math Practice Tests

Standards-Aligned Practice with Review, Answer Keys, and Explanations



Six complete 40-question Grade 7 Through Year Assessment 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, Maine Grade 7 Problem Solver!

Six focused rounds for sharper Through Year Assessment math thinking

This book gives you six full Grade 7 Through Year Assessment 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 Maine 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 six-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.

Maine 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?

Six Through Year Assessment tests, 240 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.
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.



Scan me!
For more practice
& answers

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1) Expand: $5(3y - 2)$

☐ A. $15y - 2$

☐ C. $15y - 10$

☐ B. $8y - 7$

☐ D. $3y - 10$

2) Identify the error in this solution:

$$3(2x - 1) = 15$$

$$6x - 1 = 15$$

$$6x = 16$$

$$x = \frac{16}{6} = \frac{8}{3}$$

☐ A. Did not distribute the 3 to the -1

☐ C. Did not divide both sides by 6

☐ B. Did not simplify the fraction correctly

☐ D. The solution is correct

3) A distance-time table shows a runner's proportional pace.

Time (min)	Distance (mi)
5	1
10	2
15	3
20	4

What is the constant of proportionality (miles per minute)?

☐ A. 0.1 mi/min

☐ C. 10 mi/min

☐ B. 5 mi/min

☐ D. 0.2 mi/min



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- 4) A point $P(2, -5)$ is reflected over the x -axis, and then the image is translated by the vector $(3, 4)$. What is the final location of the point?

- 5) A triangle has sides of 3.2 cm and 5.1 cm. Which range gives all possible values for the third side?

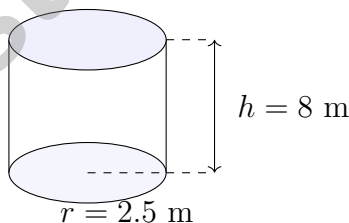
☐ A. $1.9 < c < 8.3$ cm

☐ C. $3.2 < c < 5.1$ cm

☐ B. $1.9 \leq c \leq 8.3$ cm

☐ D. $0 < c < 8.3$ cm

- 6) Two similar rectangles have a scale factor of 2.5. The smaller rectangle has a perimeter of 16 inches. What is the perimeter of the larger rectangle?



7)

Find the lateral surface area (curved side only) of the cylinder shown. Use $\pi \approx 3.14$.

☐ A. 39.25 m^2
☐ C. 125.6 m^2
☐ B. 62.8 m^2
☐ D. 188.4 m^2


8) A librarian wants to know how many books each student checks out per month. She decides to survey students who are currently in the library. What type of bias does this create?

- ☐ A. Systematic bias ☐ C. Measurement bias
☐ B. Convenience bias ☐ D. Voluntary response bias

9) Two restaurants' customer satisfaction (1–10 scale):

Restaurant	Mean	IQR	Range
Casual Bistro	6.5	3	8
Fine Dining	8.2	2	7

What does the data reveal?

- ☐ A. Fine Dining is universally superior in all ways ☐ C. Fine Dining has higher typical satisfaction with more consistent high ratings
☐ B. Casual Bistro is more democratic, appealing to diverse preferences ☐ D. Both restaurants satisfy customers identically
- 10) A histogram shows the frequency of ages in a fitness class: 10–20 (6), 20–30 (18), 30–40 (24), 40–50 (12). A promotional flyer claims “Our class serves ALL age groups equally.” Is this supported by the histogram?
- ☐ A. Yes, because four different age intervals are shown ☐ C. Yes, because the highest bar represents the most popular age group
☐ B. No, because frequencies vary significantly (6 to 24) ☐ D. No, because the bar widths are all equal



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1) A membership costs \$80 per month. If a gym offers a 10% discount for annual payment, how much would the annual membership cost?

☐ A. \$720

☐ C. \$864

☐ B. \$800

☐ D. \$960

2) A restaurant's menu prices increased by 8%. If a meal was \$25, what is the new price?

☐ A. \$33

☐ C. \$32

☐ B. \$2

☐ D. \$27

3) A dot plot displays the number of hours students exercise per week: 2, 2, 3, 3, 3, 4, 4, 4, 4, 5, 5, 6. What is the mode of the data?

4) If the probability of rolling a 3 on a die is $\frac{1}{6}$, what is the probability of NOT rolling a 3?



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- 5) A spinner is labeled with the numbers 1 through 10 (each on an equal section). If the spinner is spun 100 times, how many times would you expect it to land on an even number?

- 6) To simulate the probability of rolling a sum of 8 or higher with two dice, which initial step is necessary?

- ☐ A. Determine all possible outcomes that satisfy the condition
- ☐ B. Roll the dice only once
- ☐ C. Use only a spinner with 4 sectors
- ☐ D. Assume equal likelihood of all sums

- 7) A number from 1 to 4 is selected, and then a letter from A to C is selected. How many favorable outcomes result in an even number and a vowel (A)?

- ☐ A. 1
- ☐ B. 2
- ☐ C. 3
- ☐ D. 6

- 8) A bag has 10 marbles: 4 red, 3 blue, and 3 green. If you draw one marble, what is the probability of drawing red OR blue?

- ☐ A. $\frac{7}{10}$
- ☐ B. $\frac{3}{10}$
- ☐ C. $\frac{4}{10}$
- ☐ D. $\frac{12}{100}$



1) Solve for x : $2(x + 6) = 20$

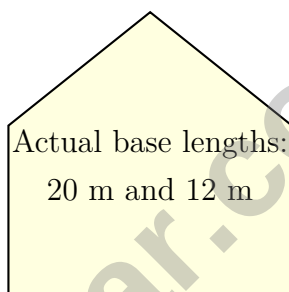
☐ A. $x = 2$

☐ C. $x = 6$

☐ B. $x = 4$

☐ D. $x = 8$

2) For side lengths 9, 12, and 15, compute $9^2 + 12^2 - 15^2$.



Scale: 1 cm = 4 m

3)

A scale drawing of a trapezoid uses a scale of 1 cm : 4 m. If the actual bases are 20 m and 12 m, what are the drawing's base lengths?

☐ A. 5 cm and 3 cm

☐ C. 8 cm and 4 cm

☐ B. 4 cm and 2.4 cm

☐ D. 20 cm and 12 cm

4) A rectangular storage room is drawn 8 in by 6 in at a scale of 1 in : 4 ft. Which statement is true?

☐ A. The actual dimensions are 32 ft by 24 ft

☐ C. The actual dimensions are 4 ft by 3 ft

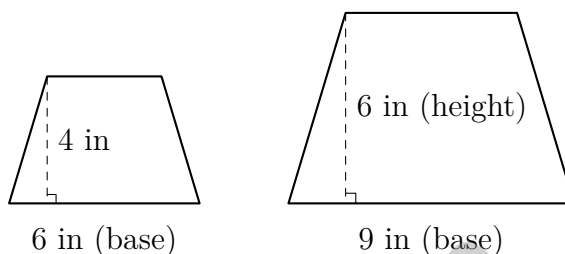
☐ B. The actual dimensions are 2 ft by 1.5 ft

☐ D. The actual dimensions are 64 ft by 48 ft



5) A point is moved from $(-3, 1)$ to $(4, 6)$ by a single transformation. Which of the following best describes this transformation?

- ☐ A. Translation by $(7, 5)$
☐ C. Rotation of 90°
☐ B. Reflection over the origin
 ☐ D. Reflection over the x -axis



6)

The two trapezoids are similar. The left trapezoid has a base of 6 inches and a height of 4 inches. The right trapezoid has a base of 9 inches. What is the scale factor from left to right?

- ☐ A. 1.25
 ☐ C. 1.67
☐ B. 1.5
 ☐ D. 2

7) A student found the area of a circle with radius 5 cm and got 31.4 cm^2 . What error did the student make? Use $\pi \approx 3.14$.

- ☐ A. Used the diameter instead of radius
 ☐ C. Used πd instead of πr^2
☐ B. Used circumference formula $2\pi r$ instead of area
 ☐ D. Computed 3.14×5 instead of 3.14×5^2

8) A bag contains 24 stickers: 9 star stickers, 7 heart stickers, and 8 smiley-face stickers. If one sticker is drawn at random, what is the probability it is a star or heart?

- ☐ A. $\frac{9}{24}$
☐ C. $\frac{16}{24}$
☐ B. $\frac{7}{24}$
☐ D. $\frac{1}{3}$



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Maine Through Year Assessment 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 Maine Through Year Assessment practice test.

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Practice Test Answers and Explanations

Practice Test 1 Answers and Explanations

- 1) **Choice C is correct.** [7.EE.1-7.EE.2](#) Distribute 5: $5(3y) - 5(2) = 15y - 10$.
- 2) **Choice A is correct.** [7.EE.4a](#) The correct distribution is $3(2x) + 3(-1) = 6x - 3$, not $6x - 1$. The error occurred in the first step.
- 3) **Choice D is correct.** [7.RP.1-7.RP.3](#) $k = 1/5 = 0.2$ miles per minute. Verify: $2/10 = 0.2$ and $3/15 = 0.2$.
- 4) **The correct answer is (5, 9).** [7.G.1-7.G.5](#) First reflection over x -axis: $(2, -5) \rightarrow (2, 5)$. Then translation by $(3, 4)$: $(2, 5) + (3, 4) = (5, 9)$.
- 5) **Choice A is correct.** [7.G.1-7.G.5](#) Triangle Inequality requires strict inequalities: $|5.1 - 3.2| < c < 5.1 + 3.2$, so $1.9 < c < 8.3$.
- 6) **The correct answer is 40.** [7.G.1-7.G.5](#) Perimeter scales linearly by the scale factor. Larger perimeter $= 16 \times 2.5 = 40$ inches.
- 7) **Choice C is correct.** [7.G.4-7.G.6](#) Lateral area $= 2\pi rh \approx 2 \times 3.14 \times 2.5 \times 8 = 125.6 \text{ m}^2$.
- 8) **Choice B is correct.** [7.SP.1-7.SP.4](#) Surveying only students already in the library is convenient but misses students who rarely visit, creating a non-representative sample.
- 9) **Choice C is correct.** [7.SP.1-7.SP.4](#) Fine Dining: mean 8.2 (higher center), IQR 2 (tighter middle 50%). Casual Bistro: mean 6.5 (lower), IQR 3 (wider spread). Fine Dining consistently delivers high satisfaction; Casual Bistro has more variable, lower average satisfaction.
- 10) **Choice B is correct.** [7.SP.1-7.SP.4](#) Equal representation would show nearly equal frequencies. The 30–40 interval (24) has 4 times as many people as the 10–20 interval (6), contradicting the “equal” claim.
- 11) **Choice B is correct.** [7.SP.5-7.SP.8](#) First spinner: 3 outcomes; second spinner: 2 outcomes. Total: $3 \times 2 = 6$ outcomes.
- 12) **Choice B is correct.** [7.SP.5-7.SP.8](#) Non-blue marbles $= 3 + 5 = 8$. $P(\text{not blue}) = \frac{8}{10} = \frac{4}{5}$.
- 13) **Choice C is correct.** [7.SP.5-7.SP.8](#) $P(A \text{ and } B) = P(A) \cdot P(B) = \frac{1}{3} \cdot \frac{1}{4} = \frac{1}{12}$.
- 14) **Choice D is correct.** [7.SP.6](#) Experimental probability $= \frac{\text{favorable outcomes}}{\text{total trials}}$. Here, the denominator 90 represents the total number of rolls.
- 15) **Choice C is correct.** [7.SP.1-7.SP.4](#) Count all leaves: $3 + 4 + 3 + 2 = 12$ data points.
- 16) **Choice B is correct.** [7.SP.5-7.SP.8](#) An even chance means equally likely to happen or not, which is $P = 0.5 = 50\%$.
- 17) **Choice C is correct.** [7.RP.3](#) Percent error $= \frac{|66-72|}{72} \times 100\% = \frac{6}{72} \times 100\% = 8.3\%$.
- 18) **Choice C is correct.** [7.RP.3](#) If $25 = 0.10 \times n$, then $n = \frac{25}{0.10} = 250$.
- 19) **Choice D is correct.** [7.RP.3](#) Discount amount $= 0.25 \times 32 = \$8$. Sale price $= 32 - 8 = \$24$.
- 20) **Choice D is correct.** [7.RP.3](#) $I = 400 \times 0.025 \times 4 = \40 . Then $A = 400 + 40 = \$440$.
- 21) **The correct answer is A, C.** [7.G.1-7.G.5](#) A: Two triangles with the same three side lengths are congruent by SSS. C: Two triangles with two equal sides and an equal included angle are congruent by SAS. B is incorrect because AAA determines similarity, not congruence (triangles can be different sizes). D is incorrect because two angles and two separate sides (not necessarily properly positioned) do not guarantee congruence.
- 22) **Choice D is correct.** [7.NS.1-7.NS.3](#) Choices A, B, and C all equal -9 . Choice D equals 9, which is not equivalent. The negative sign must be applied carefully.
- 23) **Choice B is correct.** [7.EE.1](#) Combine x terms: $(0.5 + 1.5)x = 2x$. Combine y terms: $(2 - 1)y = y$. Result: $2x + y$.
- 24) **Choice C is correct.** [7.SP.1-7.SP.4](#) 44% of 24 $= 0.44 \times 24 = 10.56$ hours.
- 25) **Choice D is correct.** [7.RP.1-7.RP.3](#) Divide: $1.5 : 18 = 1 : 12$. The model is $\frac{1}{12}$ the actual size.
- 26) **Choice D is correct.** [7.NS.1b](#) Balance $= 28 + (-35) = -7$. She owes \$7 (or is short \$7).
- 27) **Choice A is correct.** [7.EE.1-7.EE.2](#) Find GCF of 8 and 20: it is 4. Since both terms have b , the GCF is $4b$.
- 28) **Choice D is correct.** [7.RP.1-7.RP.3](#) The unit-rate point $(1, 0.9)$ shows 0.9 grams per serving.
- 29) **Choice B is correct.** [7.NS.1-7.NS.3](#) Starting at -2 and moving right 3 units: $-2 + 3 = 1$.
- 30) **Choice B is correct.** [7.NS.2d](#) Divide $1 \div 6 = 0.1666\ldots = 0.1\bar{6}$. Since $6 = 2 \times 3$, the factor 3 makes it repeat.



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 6 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 **6** 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:

6 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.



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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