

5

Maine

Through Year
Assessment

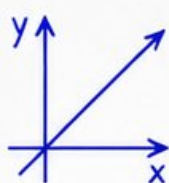
GRADE

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
TESTS2 ONLINE
TESTS

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



Build
Confidence



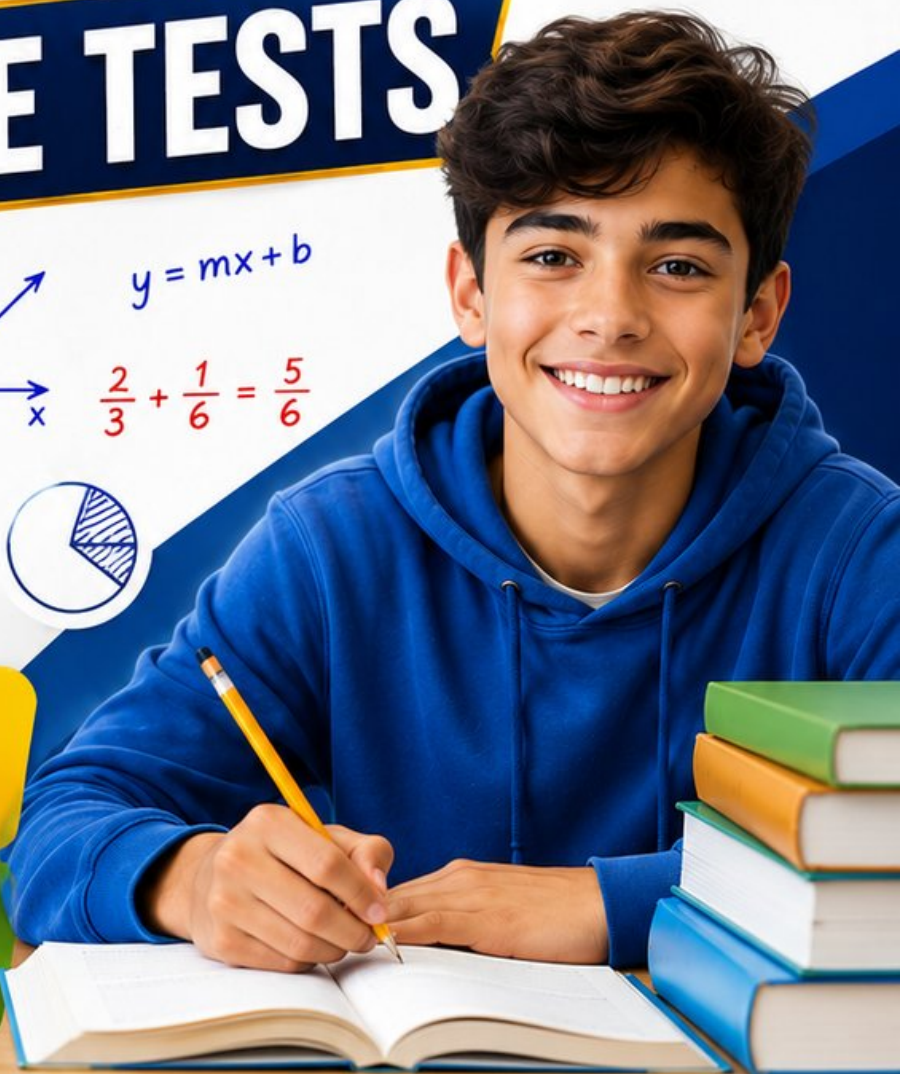
Strengthen
Math Skills



Detailed Answers
& Explanations

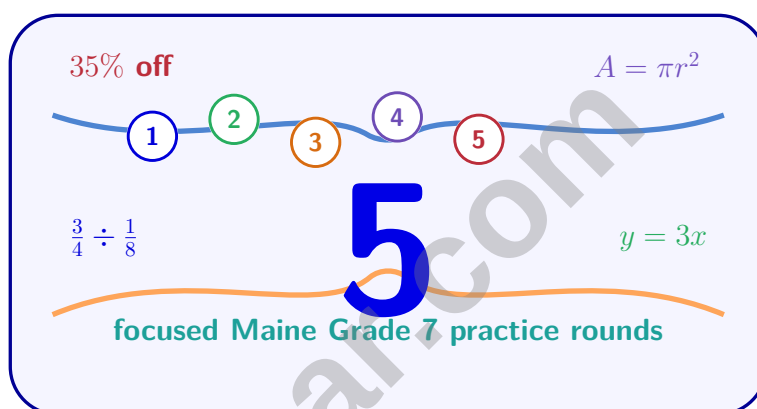


Improve Test
Performance



5 Maine Through Year Assessment Grade 7 Math Practice Tests

Confident Grade 7 Review with Practice Tests and Clear Solutions



Five 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!

Five focused rounds for sharper Through Year Assessment math thinking

This book gives you five 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 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.

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?

Five Through Year Assessment 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) Three given side lengths are 4 cm, 5 cm, and 10 cm. How many distinct triangles can be formed?
- ☐ A. 0 ☐ C. 2
- ☐ B. 1 ☐ D. Infinitely many
- 2) A student computed: $I = 600 \times 0.04 \times 2 = 4.8$. What mistake did she make?
- ☐ A. She forgot to convert the percentage to a decimal ☐ C. She forgot the principal amount
- ☐ B. She computed correctly; no error was made ☐ D. She placed the decimal incorrectly in her answer
- 3) Which is the simplest form of $-8 - 3$?
- ☐ A. -11 ☐ C. 5
- ☐ B. -5 ☐ D. 11
- 4) Simplify: $8x + 5y - 3x - 2y + x$
- ☐ A. $6x + 3y$ ☐ C. $4x + 3y$
- ☐ B. $12x + 3y$ ☐ D. $8x + 5y$
- 5) A school fund-raiser sold 800 items. The circle graph shows 27% were cookies. How many cookies were sold?
- ☐ A. 27 ☐ C. 216
- ☐ B. 108 ☐ D. 400



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- 6) A scale model of a building uses a scale of 1 inch : 12 feet. If the actual building is 84 feet tall, how tall is the model (in inches)?
- ☐ A. 6 inches ☐ C. 8 inches
☐ B. 12 inches ☐ D. 7 inches
- 7) A restaurant gained 48 customers on Monday and lost 30 customers on Tuesday (compared to Sunday). What was the net change in customers over the two days?
- ☐ A. -78 ☐ C. 18
☐ B. -18 ☐ D. 78
- 8) A runner completes 4 miles in 3 hours at a constant speed. What is the unit rate in miles per hour?
- ☐ A. 0.75 miles per hour ☐ C. 1.33 miles per hour
☐ B. 1 mile per hour ☐ D. 3 miles per hour
- 9) Marcus's score was -15 points. He earned 8 points for a correct answer, then lost 3 points. What is his new score?
- ☐ A. -26 points ☐ C. -10 points
☐ B. 10 points ☐ D. -20 points
- 10) What should go in the blank: $\frac{23}{40} = 0.5_?$
- ☐ A. 0.523 ☐ C. 0.58
☐ B. 0.57 ☐ D. 0.575



11) Which number is equivalent to 3.2×10^4 ?

☐ A. 3,200

☐ C. 320,000

☐ B. 32,000

☐ D. 3,200,000

12) Evaluate $2x^2 + 3$ when $x = 4$.

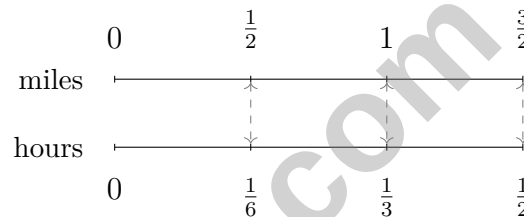
☐ A. 19

☐ C. 44

☐ B. 32

☐ D. 35

13) Use the double number line below to find the unit rate of miles per hour.



What is the unit rate in miles per hour?

☐ A. 9 mph

☐ C. $\frac{1}{9}$ mph

☐ B. $\frac{1}{3}$ mph

☐ D. 3 mph

14) A rental car costs \$25 per day. Which table represents the cost for different numbers of days?

Days	1	2	3
Option A: Cost	25	50	75
Option B: Cost	26	50	74

☐ A. Option A

☐ C. Neither

☐ B. Option B

☐ D. Both



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- 1) A running club tracks weekly mileage for two runners over 5 weeks:

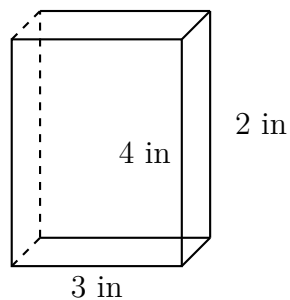
Runner	5-Week Data	Conclusion
Alex	10, 12, 11, 13, 9	Mean = 11, MAD = 1.2
Blake	5, 20, 10, 15, 10	Mean = 12, MAD = 4.0

Which interpretation is correct?

- ☐ A. Alex is more disciplined (consistent 11 mi/week)
 ☐ C. Both runners cover identical weekly distances
- ☐ B. Blake averages more miles per week
 ☐ D. Blake is more consistent
- 2) A museum surveyed 105 visitors and found 35 were children. The museum expects 3150 visitors this month. About how many are expected to be children?
- ☐ A. 700
 ☐ C. 1050
- ☐ B. 875
 ☐ D. 1225
- 3) A student is comparing two job offers. Job 1 pays \$12 per hour, and Job 2 pays \$13 per hour. If they both represent proportional relationships where E is earnings and h is hours, which statement is true?
- ☐ A. The equations cannot be written without knowing the number of hours.
 ☐ D. Job 1 has equation $E = 12h$ and Job 2 has $E = 13h$; Job 2 pays more per hour.
- ☐ B. Both jobs have the same equation.
- ☐ C. Job 1 is proportional but Job 2 is not.



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4)

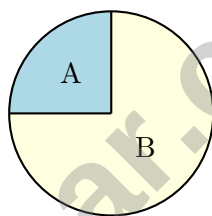
The rectangular prism shown has dimensions $3\text{ in} \times 2\text{ in} \times 4\text{ in}$. What is its surface area?

☐ A. 32 in^2

☐ B. 52 in^2

☐ C. 64 in^2

☐ D. 96 in^2



5)

A spinner with sections A and B is spun twice. What is the total number of outcomes in the sample space?

☐ A. 2

☐ B. 3

☐ C. 4

☐ D. 8

6) Solve: $-2(x + 1) < 10$

☐ A. $x > -6$

☐ B. $x < -6$

☐ C. $x < 6$

☐ D. $x > 6$



- 1) A rectangular prism with a square base has a base perimeter of 20 cm and a height of 8 cm. What is the volume? (Hint: find the side length of the square first.)

☐ A. 100 cm^3 ☐ C. 200 cm^3
☐ B. 160 cm^3 ☐ D. 400 cm^3

- 2) A phone plan costs \$20 per month plus \$0.15 per text message. If a person sends t text messages in a month, which expression gives the total monthly cost?

☐ A. $20 + 0.15t$ ☐ C. $20 - 0.15t$
☐ B. $20t + 0.15$ ☐ D. $(20 + 0.15)t$

- 3) Solve: $-3x + 8 = 2$

$$-3x + 8 = 2$$



Subtract 8

$$-3x = -6$$



Divide by -3

$$x = 2$$

- ☐ A. $x = 1$ ☐ C. $x = 3$
☐ B. $x = 2$ ☐ D. $x = 4$
- 4) A square pyramid with base side 8 cm and height 10 cm is sliced perpendicular to its base, passing through the apex and the center of the base. What is the shape of the cross-section?

☐ A. Equilateral triangle ☐ C. Right triangle
☐ B. Isosceles triangle ☐ D. Scalene triangle



5) Which situation describes a non-proportional relationship?

- ☐ A. Buying gas at \$3 per gallon
- ☐ B. Walking at a constant speed of 3 mph
- ☐ C. Downloading files at 50 MB per second
- ☐ D. Renting a movie with \$5 base fee plus \$1 per day

6) What is 0.45 as a percent?

- ☐ A. 4.5%
- ☐ B. 450%
- ☐ C. 0.45%
- ☐ D. 45%

7) Divide $-2\frac{1}{2} \div (-\frac{5}{6})$.

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

8) A store gives a discount of $\frac{1}{5}$ off the original price of \$60. How much does the item cost after the discount?

- ☐ A. \$12
- ☐ B. \$36
- ☐ C. \$48
- ☐ D. \$72

9) An electronics store marks up a TV by 25%. If the cost is c dollars, which expression shows the selling price?

- ☐ A. $c + 0.25c = 1.25c$
- ☐ B. $c - 0.25c$
- ☐ C. $0.25c$
- ☐ D. $c \div 1.25$



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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 A is correct.** (7.G.1-7.G.5) Check Triangle Inequality: $4 + 5 = 9 \not> 10$. The sum of the two smaller sides does not exceed the largest, so no triangle exists.
- 2) **Choice D is correct.** (7.RP.3) The correct calculation is $600 \times 0.04 \times 2 = 48$, not 4.8. Since $0.04 \times 2 = 0.08$, $600 \times 0.08 = \$48$. The student moved the decimal point one place too far to the left.
- 3) **Choice A is correct.** (7.NS.1-7.NS.3) $-8 - 3 = -8 + (-3) = -11$. Both values are negative, so the sum is more negative.
- 4) **Choice A is correct.** (7.EE.1) Combine: $(8 - 3 + 1)x + (5 - 2)y = 6x + 3y$.
- 5) **Choice C is correct.** (7.SP.1-7.SP.4) 27% of 800 = $0.27 \times 800 = 216$ cookies.
- 6) **Choice D is correct.** (7.RP.1-7.RP.3) Divide the actual height by the scale factor: $84 \div 12 = 7$ inches.
- 7) **Choice C is correct.** (7.NS.1b) Net change = $48 + (-30) = 18$. There was a net gain of 18 customers.
- 8) **Choice C is correct.** (7.RP.1-7.RP.3) Unit rate = $4 \div 3 \approx 1.33$ miles per hour (or exactly $\frac{4}{3}$ miles per hour).
- 9) **Choice C is correct.** (7.NS.1-7.NS.3) $-15 + 8 - 3 = -7 - 3 = -10$ points.
- 10) **Choice D is correct.** (7.NS.2d) Divide $23 \div 40 = 0.575$. Since $40 = 2^3 \times 5$, it terminates in three decimal places.
- 11) **Choice B is correct.** (7.NS.1-7.NS.3) $3.2 \times 10^4 = 3.2 \times 10,000 = 32,000$. Move the decimal 4 places right.
- 12) **Choice D is correct.** (7.EE.1-7.EE.2) Substitute: $2(4)^2 + 3 = 2(16) + 3 = 32 + 3 = 35$.
- 13) **Choice D is correct.** (7.RP.1-7.RP.3) From the double number line, $\frac{1}{2}$ mile in $\frac{1}{6}$ hour gives unit rate $\frac{1/2}{1/6} = \frac{1}{2} \times 6 = 3$ mph.
- 14) **Choice A is correct.** (7.RP.1-7.RP.3) At \$25/day: 1 day costs \$25, 2 days cost \$50, 3 days cost \$75. Option A is correct.
- 15) **Choice C is correct.** (7.RP.3) Increase: $\frac{15}{100} \times 5000 = 750$. New revenue: $5000 + 750 = \$5750$.
- 16) **Choice D is correct.** (7.RP.3) Option 1 interest: $3\% \times \$1,000 = \30 . Option 2 interest: $5\% \times \$1,000 = \50 . Difference: $\$50 - \$30 = \$20$.
- 17) **The correct answer is 0.75.** (7.RP.1-7.RP.3) Revenue is price per cup times cups sold, so the constant is 0.75.
- 18) **Choice B is correct.** (7.NS.1-7.NS.3) Change in elevation: $0 - (-480) = 480$ m. Rate: $480 \div 16 = 30$ m/hr upward.
- 19) **Choice C is correct.** (7.NS.1-7.NS.3) $-5 \times 4 = -20$ is correct (negative times positive is negative). Her error was reversing the sign to +20 after the multiplication, which is incorrect.
- 20) **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.
- 21) **Choice A is correct.** (7.NS.1-7.NS.3) Final score = $-250 + 180 - 120 + 200 = 10$ points.
- 22) **The correct answer is \$30.** (7.RP.3) The increase is 25% of $\$24 = 0.25 \times 24 = 6$ dollars. New price: $24 + 6 = 30$ dollars.
- 23) **Choice A is correct.** (7.EE.1-7.EE.2) Distribute -2: $-2(x) - 2(-3) + 5x = -2x + 6 + 5x$. Combine: $-2x + 5x + 6 = 3x + 6$.
- 24) **Choice C is correct.** (7.NS.2) Positive times positive equals positive. $5 \times 4 = 20$.
- 25) **Choice C is correct.** (7.NS.1-7.NS.3) $\sqrt{144} = 12$ inches since $12 \times 12 = 144$.
- 26) **Choice A is correct.** (7.SP.3) Student M's errors concentrate at 2-4 with peak at 3 and range 3 (2-5). Student N's errors vary widely from 1-7 (range 6), showing inconsistent performance.
- 27) **Choice D is correct.** (7.RP.3) Commission = commission rate $\times$ sales. Since $480 = 0.06 \times \text{sales}$, $\text{sales} = 480 \div 0.06 = \$8,000$.
- 28) **Choice B is correct.** (7.G.4-7.G.6) Decompose the house shape into a rectangle and a triangular roof. Rectangle: $10 \times 5 = 50$ sq units. Triangle: $\frac{1}{2} \times 6 \times 3 = 9$ sq units. Add: $50 + 9 = 59$ sq units.
- 29) **The correct answer is \$48.83.** (7.RP.3) Tax = $0.085 \times 45 = \$3.825 \approx \3.83 . Final price = $45 + 3.83 = \$48.83$.
- 30) **Choice C is correct.** (7.RP.3) Deductions: $\$32,000 - \$25,600 = \$6,400$. Percent: $\frac{6400}{32000} = 0.20 = 20\%$.



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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.



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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