

9

Maine

Through Year Assessment

— **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**



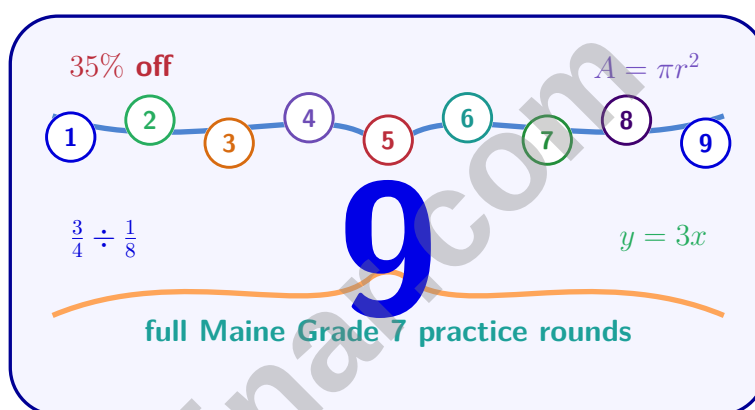
**SHARPEN
THINKING**



BE TEST-READY
Improve Performance

9 Maine Through Year Assessment Grade 7 Math Practice Tests

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



Nine 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!

Nine focused rounds for sharper Through Year Assessment math thinking

This book gives you nine 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 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.

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?

Nine Through Year Assessment 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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& answers

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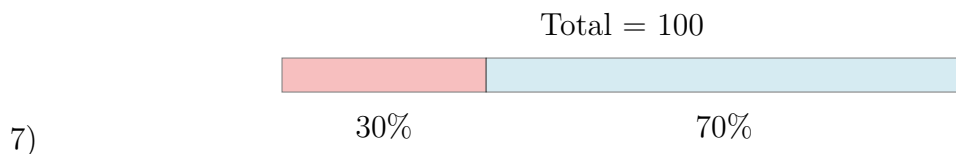
- 1) A hair salon charges \$25 for a haircut and \$8 per hair treatment. If the bill is \$73, which equation represents t , the number of treatments?
- ☐ A. $25t + 8 = 73$ ☐ C. $8 + 25t = 73$
☐ B. $8t + 25 = 73$ ☐ D. $25(t + 8) = 73$
- 2) A marble bag contains 5 green, 3 purple, and 2 orange marbles. If drawing without replacement, which compound event is MOST likely?
- ☐ A. Green then purple ☐ C. Purple then purple
☐ B. Orange then green ☐ D. Green then green
- 3) A rental car company charges \$40 per day plus a 15% insurance premium. If a customer rents for 5 days, what is the total rental cost?
- ☐ A. \$200 ☐ C. \$250
☐ B. \$280 ☐ D. \$230
- 4) A prism has a base area of 72 ft^2 and a volume of 576 ft^3 . What is its height?
- ☐ A. 6 ft ☐ C. 12 ft
☐ B. 8 ft ☐ D. 504 ft
- 5) A student claims: "An arc is the same as a chord." Is this correct?
- ☐ A. Yes, they are the same ☐ C. Yes, but only if the arc is very small
☐ B. No; an arc is a curved part of the circle, while a chord is a straight line segment ☐ D. No; a chord is always longer than an arc



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- 6) A map shows a park as a rectangle measuring 4 cm by 3 cm with scale 1 cm : 2 m. If the actual park needs to be enlarged so each dimension is doubled, what will be the new scale for a map to still show the park as 4 cm by 3 cm?

- ☐ A. 1 cm : 2 m ☐ C. 1 cm : 1 m
☐ B. 2 cm : 2 m ☐ D. 1 cm : 4 m



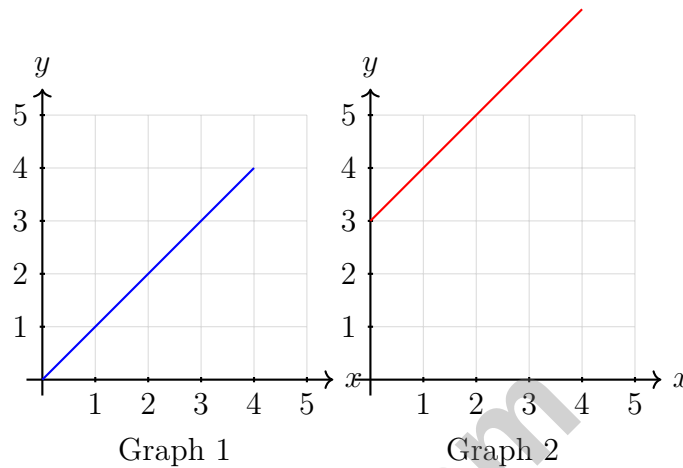
The bar model shows 30% and 70% of a total. If the total is 100, how much is 30%?

- ☐ A. 25 ☐ C. 35
☐ B. 40 ☐ D. 30
- 8) Which expression uses the associative property to group the two negative addends first?

- ☐ A. $-6 + 13 + (-7)$ ☐ C. $13 + (-6) + (-7)$
☐ B. $(-6 + (-7)) + 13$ ☐ D. $(13 + (-6)) + (-7)$



- 9) Two graphs are shown. Graph 1 has a line from $(0,0)$ to $(4,4)$. Graph 2 has a line from $(0,3)$ to $(4,7)$. Which is proportional?



- ☐ A. Neither is proportional
☐ B. Graph 2 is proportional
☐ C. Both are proportional
☐ D. Graph 1 is proportional
- 10) A basketball team scores 96 points. If 33.33% came from three-pointers, approximately how many points came from three-pointers? (Round to the nearest whole number.)
- ☐ A. 23 points
☐ B. 96 points
☐ C. 64 points
☐ D. 32 points
- 11) Alex makes a budgeting error. He calculates 20% of his \$500 paycheck and gets \$100. Which error did he make?
- ☐ A. He used the wrong percentage; correct answer is \$50
☐ B. He confused savings with expenses; 20% should be \$200
☐ C. He forgot to add tax; the answer is \$108
☐ D. He used the correct calculation; 20% of \$500 is \$100



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Game 1: -8
Game 2: +15
Game 3: -3
Game 4: +12
Goal: +20 total

1) Point Differentials

A team's point differential in four games is shown. The coach wants a total differential of +20 over five games. What must the differential be in game 5?

- ☐ A. +4 ☐ C. +8
☐ B. +16 ☐ D. -4

2) Which table shows a proportional relationship between x and y ?

Option A:

x	1	2	3	4
y	4	8	12	16

Option B:

x	1	2	3	4
y	2	5	7	10

- ☐ A. Neither ☐ C. Both A and B
☐ B. Option B only ☐ D. Option A only

3) You can buy 8 pencils for $\frac{1}{2}$ dollar. How much does one pencil cost?

- ☐ A. \$0.04 ☐ C. \$0.08
☐ B. \$0.16 ☐ D. \$0.0625

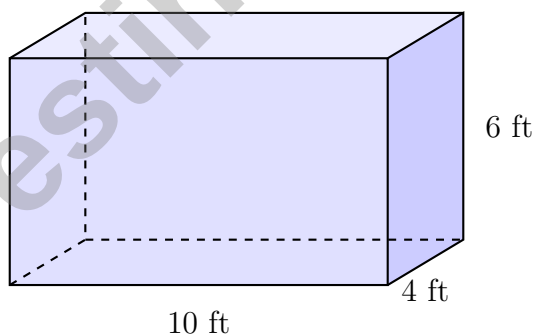


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- 4) A proportional relationship is shown in the table. What is the missing value?

x	y
3	12
5	20
7	?

- ☐ A. 24 ☐ C. 27
☐ B. 25 ☐ D. 28
- 5) A data table shows that 8 items cost \$40 and 12 items cost \$60. Is this a proportional relationship? If yes, what is k ?
- ☐ A. Not proportional ☐ C. Yes; $k = 8$
☐ B. Yes; $k = 12$ ☐ D. Yes; $k = 5$
- 6) What is the coefficient of x in the simplified form of $9x - 4x + 2y$?
- ☐ A. 9 ☐ C. 4
☐ B. 5 ☐ D. 13



- 7) The colored isometric view represents a rectangular prism. Which calculation correctly finds its surface area?

- ☐ A. $2(10 + 6 + 4)$ ☐ C. $2(10 \times 6 + 10 \times 4 + 6 \times 4)$
☐ B. $2(10 \times 6 \times 4)$ ☐ D. $10 \times 6 \times 4$



- 1) A student draws a card from a standard deck. The probability of drawing a heart is $\frac{1}{4}$. What is this as a percent?

☐ A. 4% ☐ C. 25%
☐ B. 14% ☐ D. 40%

- 2) A website offers two subscription plans. Plan A charges a \$15 base fee and \$3 per month. Plan B charges a \$8 base fee and \$4 per month. After how many months m will both plans cost the same? Which equation is correct?

☐ A. $3m + 15 = 4m + 8$ ☐ C. $3m + 15 = 8m + 4$
☐ B. $15 + 3m = 8 + 4m$ ☐ D. $15 + 3m = 4 + 8m$

$3 \times$



3)

$$3(2x + 1) = 21$$

Solve for x : $3(2x + 1) = 21$

☐ A. $x = 2$ ☐ C. $x = 4$
☐ B. $x = 3$ ☐ D. $x = 5$

- 4) A savings account has a balance of $-\$15$ (overdraft). After depositing \$50, what is the new balance? Write and solve an equation.

☐ A. \$25 ☐ C. \$50
☐ B. \$35 ☐ D. \$65



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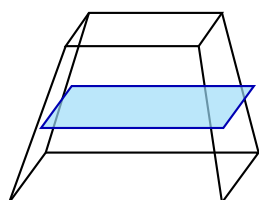
5) A blueprint shows a room measuring 3 cm by 5 cm at a scale of 1 cm : 1 m. What are the actual room dimensions?

☐ A. 3 m by 5 m

☐ C. 1 m by 1.67 m

☐ B. 300 cm by 500 cm

☐ D. 6 m by 10 m



mid-height square slice

6)

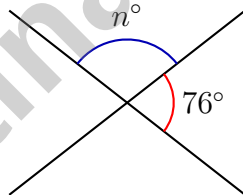
A frustum of a square pyramid has a lower base of 4×4 cm, an upper base of 2×2 cm, and a height of 3 cm. A horizontal plane cuts through the frustum halfway between the bases. What is the side length of the square cross-section?

☐ A. 2 cm

☐ C. 3 cm

☐ B. 2.5 cm

☐ D. 3.5 cm



7)

Two lines intersect forming four angles. One angle measures 76° . What is the measure of the adjacent angle n ?

☐ A. 14°

☐ C. 104°

☐ B. 76°

☐ D. 180°



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 B is correct.** (7.EE.4a) Haircut is \$25 plus \$8 per treatment. Equation: $8t + 25 = 73$.
- 2) **Choice D is correct.** (7.SP.5-7.SP.8) $P(\text{GG}) = \frac{5}{10} \cdot \frac{4}{9} = \frac{20}{90}$. $P(\text{GP}) = \frac{5}{10} \cdot \frac{3}{9} = \frac{15}{90}$. $P(\text{OG}) = \frac{2}{10} \cdot \frac{5}{9} = \frac{10}{90}$. $P(\text{PP}) = \frac{3}{10} \cdot \frac{2}{9} = \frac{6}{90}$. Green-green is largest.
- 3) **Choice D is correct.** (7.RP.3) Daily cost = $40 \times 5 = \$200$. Insurance premium = $0.15 \times 200 = \$30$. Total = $200 + 30 = \$230$.
- 4) **Choice B is correct.** (7.G.4-7.G.6) $h = \frac{V}{B} = \frac{576}{72} = 8$ ft.
- 5) **Choice B is correct.** (7.G.4-7.G.6) An arc is a portion of the circumference (curved). A chord is a straight line segment with endpoints on the circle. They are different.
- 6) **Choice D is correct.** (7.RP.1-7.RP.3) Actual dimensions now: (4×2) m by (3×2) m = 8 m by 6 m. To show as 4 cm by 3 cm: $8 \div 4 = 2$ m per cm, or 1 cm : 4 m (doubling the real dimensions doubles the scale).
- 7) **Choice D is correct.** (7.RP.3) 30% of 100 is $0.30 \times 100 = 30$.
- 8) **Choice B is correct.** (7.NS.1b) Option B groups the two negative numbers first $(-6 + (-7) = -13)$, then adds the positive: $-13 + 13 = 0$. This is easier than computing left-to-right.
- 9) **Choice D is correct.** (7.RP.1-7.RP.3) Graph 1 passes through origin $(0, 0)$ with slope $k = 1$. Graph 2 has y -intercept 3, so not proportional.
- 10) **Choice D is correct.** (7.RP.3) Using the proportion $\frac{33.33}{100} = \frac{x}{96}$, we get $x \approx 32$ points.
- 11) **Choice D is correct.** (7.RP.3) $20\% \times \$500 = 0.20 \times 500 = \100 is correct. Options A, C, and D represent common errors (wrong percent, tax confusion, and flipping categories).
- 12) **The correct answer is 8.** (7.G.4-7.G.6) $6s^2 = 384 \Rightarrow s^2 = 64 \Rightarrow s = 8$ cm.
- 13) **Choice C is correct.** (7.NS.1-7.NS.3) $1.04 \times 10^6 = 1.04 \times 1,000,000 = 1,040,000$.
- 14) **The correct answer is 4.** (7.RP.1-7.RP.3) New length = $8 \times \frac{1}{2} = 4$ meters.
- 15) **Choice A is correct.** (7.EE.4a) Distribute: $-6x + 18 = 12$. Subtract 18: $-6x = -6$. Divide by -6 : $x = 1$.
- 16) **Choice D is correct.** (7.RP.1-7.RP.3) Unit rate: $\frac{5/8}{1/12} = \frac{5}{8} \times 12 = \frac{60}{8} = \frac{15}{2} = 7.5$ tons/day. In 2 days: $\frac{15}{2} \times 2 = 15$ tons.
- 17) **Choice D is correct.** (7.RP.1-7.RP.3) The ratio salt:water is $3 : 12 = 1 : 4$, so $s = \frac{1}{4}w$.
- 18) **Choice B is correct.** (7.NS.1-7.NS.3) $1 \times 1 = 1$, so $\sqrt{1} = 1$.
- 19) **Choice B is correct.** (7.NS.1-7.NS.3) Total wins = $15 + 18 = 33$. Total losses = $8 + 5 = 13$. Net = $33 - 13 = 20$ wins.
- 20) **Choice A is correct.** (7.EE.1-7.EE.2) Distribute the negative: $6n + 4 - 3n + 2 = (6n - 3n) + (4 + 2) = 3n + 6$.
- 21) **Choice A is correct.** (7.EE.1-7.EE.2) $\text{gcd}(10, 15) = 5$, so $10y + 15 = 5(2y + 3)$.
- 22) **The correct answer is A,C.** (7.G.4-7.G.6) Option A is correct (60 m^2). Option C is correct (18 m^2). The true total is $60 + 18 = 78 \text{ m}^2$, so D and
- 23) **Choice C is correct.** (7.G.1-7.G.5) Actual dimensions: 9 m $\times$ 6 m. Area: $9 \times 6 = 54 \text{ m}^2$. (Or: drawing area = 8.64 cm^2 , area scale factor = $(2.5)^2 = 6.25$, actual area = $8.64 \times 6.25 = 54 \text{ m}^2$).
- 24) **Choice C is correct.** (7.G.1-7.G.5) The scale factor is $15 \div 5 = 3$. The shortest side of the larger triangle is $3 \times 3 = 9$.
- 25) **Choice C is correct.** (7.SP.5-7.SP.8) The rectangle is divided into four equal regions, each representing a $\frac{1}{4}$ probability. All outcomes are equally likely, so this is a uniform model.
- 26) **Choice A is correct.** (7.NS.2) $0.4 \times 0.5 = 0.2$. Count total decimal places: $4 \times 5 = 20$, then place decimal to get $0.20 = 0.2$.
- 27) **Choice A is correct.** (7.SP.1-7.SP.4) There are 13 values (odd). Ordered: 72, 75, 78, 78, 81, 83, 85, 86, 89, 90, 92, 94, 97. The 7th value is 85.
- 28) **Choice C is correct.** (7.RP.3) Savings: $0.05 \times 80 = \$4$.
- 29) **Choice A is correct.** (7.RP.3) Account 1: $1200(1.07) = 1284$. Account 2: $1100(1.08) = 1188$. Difference: $1284 - 1188 = 96$.



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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!

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