

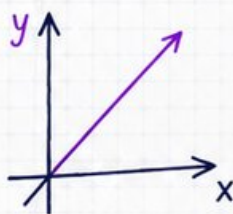
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Michigan M STEP

GRADE
7
MATH

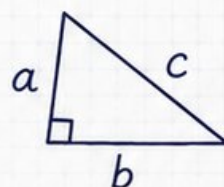
PRACTICE TESTS

- ✓ Standards Aligned
Problem Solving
For Comprehensive
Assessment Programs



$$y = mx + b$$

$$\frac{2}{3}x - \frac{4}{5} = \frac{1}{2}$$



$$3(x - 2) = 2x + 5$$



3 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



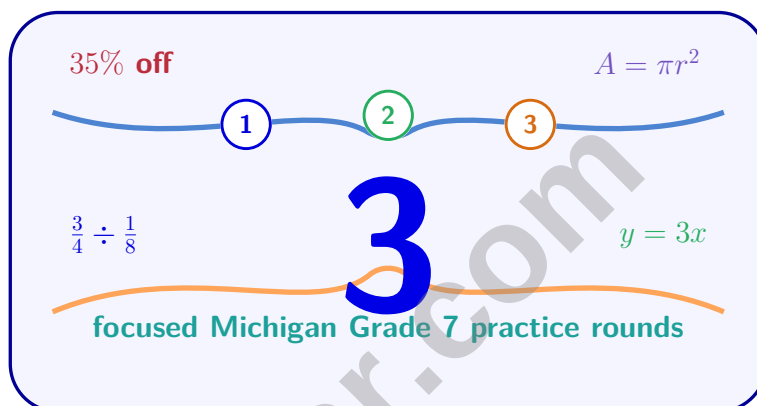
Detailed Answers
& Explanations



Improve Test
Performance

3 Michigan M STEP Grade 7 Math Practice Tests

M STEP Review Practice with Explanations and Answer Keys



Three complete 40-question Grade 7 M STEP 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, Michigan Grade 7 Problem Solver!

Three focused rounds for sharper M STEP math thinking

This book gives you three full Grade 7 M STEP 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 Michigan 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 three-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.

Michigan 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?

Three M STEP tests, 120 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.
Test 3	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) A sports team: Season 1 has 15 wins and 8 losses. Season 2 has 18 wins and 5 losses. What is the total wins minus losses across both seasons?

☐ A. 30 net wins
☐ B. 20 net wins
☐ C. 35 net wins
☐ D. 25 net wins

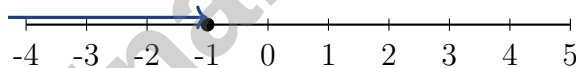
- 2) A thermometer estimate of 98.4 degrees has a 2% percent error. What is the actual temperature (rounded to nearest tenth)?

☐ A. 96.4 degrees
☐ B. 100.4 degrees
☐ C. 98.6 degrees
☐ D. 100 degrees

- 3) Expand and simplify: $6(2k + 1) + 3(k - 2)$

☐ A. $15k$
☐ B. $15k + 6$
☐ C. $15k + 3$
☐ D. $12k - 6$

- 4) On a number line, what inequality does this represent?



☐ A. $x > -1$
☐ B. $x < -1$
☐ C. $x \geq -1$
☐ D. $x \leq -1$

- 5) Over how many years will \$1500 at 5.5% simple interest earn \$412.50 in interest?

☐ A. 2 years
☐ B. 3 years
☐ C. 4 years
☐ D. 5 years



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- 6) The temperature was -7°C in the morning. It rose by 15°C during the day. What was the temperature after the rise?
- ☐ A. -22°C ☐ C. 8°C
☐ B. -8°C ☐ D. 22°C
- 7) Simplify: $0.5x + 1.5x + 2y - y$
- ☐ A. $3.5xy$ ☐ C. $1.5x + y$
☐ B. $2x + y$ ☐ D. $3.5x + 2y$
- 8) Two similar rectangles are shown in a scale model. The small rectangle on the plan measures $2\text{ cm} \times 1.5\text{ cm}$. The actual rectangle is $16\text{ m} \times 12\text{ m}$. What is the linear scale factor?
- ☐ A. $1 : 24$ ☐ C. $800 : 1$
☐ B. $1 : 1000$ ☐ D. $1 : 800$
- 9) What is 35% of 400?
- ☐ A. 120 ☐ C. 140
☐ B. 130 ☐ D. 150
- 10) An item that originally costs \$200 is discounted by \$50. What is the percent discount?
- ☐ A. 20% ☐ C. 40%
☐ B. 33% ☐ D. 25%
- 11) 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. $(20 + 0.15)t$



h_1	$8x$	12
h_2	16	24
	w_1	w_2

12)

An area model has four rectangular sections with areas $8x$, 12, 16, and 24. What is the GCF of all four terms?

☐ A. 2☐ C. 8☐ B. 4☐ D. 12

13) A square pyramid has a base with side length 12 cm and slant height 10 cm. What is the surface area?

☐ A. 144 cm^2 ☐ C. 384 cm^2 ☐ B. 240 cm^2 ☐ D. 480 cm^2

14)

Simulated Roll	1	2	3	4
Frequency	48	52	45	55

A spinner with 4 equal sections is spun 200 times to estimate probabilities. Which two sections have relative frequencies closest to the theoretical probability of 0.25?

☐ A. Sections 1 and 2☐ C. Sections 1 and 3☐ B. Sections 2 and 4☐ D. Sections 3 and 4

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1) If a circle has circumference 100 cm, what is its radius? (Use $\pi \approx 3.14$, round to nearest whole.)

☐ A. About 16 cm

☐ C. About 50 cm

☐ B. About 32 cm

☐ D. About 64 cm

2) Solve for x : $-2(3x + 1) = 10$

☐ A. $x = -2$

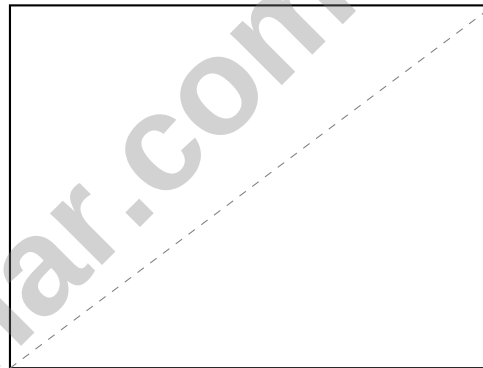
☐ C. $x = 1$

☐ B. $x = -1$

☐ D. $x = 2$

Scale: 1 cm : 2 m

6 cm (drawing)



8 cm (drawing)

3)

Using the scale shown, what is the actual length of the diagonal side of this rectangle (approximately)?

☐ A. 10 m

☐ C. 20 m

☐ B. 14 m

☐ D. 28 m



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- 4) A rectangular deck is drawn 5 cm by 9 cm on a blueprint at scale 1 cm : 1 m. The blueprint is redrawn at a scale of 1 cm : 0.5 m. What are the new dimensions?

☐ A. 2.5 cm by 4.5 cm

☐ C. 10 cm by 18 cm

☐ B. 5 cm by 9 cm

☐ D. 20 cm by 36 cm

- 5) A square pyramid with base side 10 cm and slant height 13 cm is cut by a plane parallel to the base at the midpoint of the height. What is the side length of the square cross-section?

☐ A. 5 cm

☐ C. 7.5 cm

☐ B. 6.5 cm

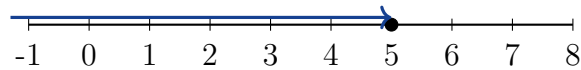
☐ D. 10 cm

- 6) A pair of shoes is on sale for \$60 after a 25% discount. What was the original price of the shoes?

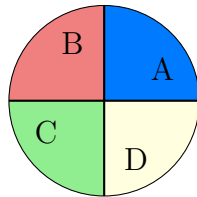
- 7) A bank charges a \$5 monthly fee plus \$0.10 per check written. If a customer writes 30 checks in a month, what is the total charged in fees?



1) Which graph represents $z \leq 5$?



- ☐ A. Open circle at 5 pointing left ☐ C. Open circle at 5 pointing right
☐ B. Closed circle at 5 pointing right ☐ D. Closed circle at 5 pointing left



2)

This spinner has four equal sectors. If you spin twice, which is $P(A \text{ then } B)$?

- ☐ A. $\frac{1}{4}$ ☐ C. $\frac{1}{16}$
☐ B. $\frac{1}{8}$ ☐ D. $\frac{2}{4}$

3) A freelance designer charges clients a 15% design fee on top of materials costs. If materials cost \$200, what is the total cost to the client?

- ☐ A. \$215 ☐ C. \$245
☐ B. \$260 ☐ D. \$230



4)

Category	Budget Amount
Rent	\$1 500
Utilities	\$250
Groceries	\$400
Transportation	\$300
Savings	\$550
Total	\$3 000

What percent of the budget goes to savings?

☐ A. 15%☐ C. 20%☐ B. 25%☐ D. 18%

5) Brianna deposits \$1,000 in an account earning 10% interest compounded annually. What is the balance after 2 years?

☐ A. \$1,100☐ C. \$1,210☐ B. \$1,200☐ D. \$1,220

6) An item originally marked at \$80 is reduced to \$60. What is the percent decrease?

☐ A. 20%☐ C. 30%☐ B. 33%☐ D. 25%

7) Simplify: $10p - 5p + 3p - 2p$

☐ A. $6p$ ☐ C. $16p$ ☐ B. $20p$ ☐ D. $4p$ 

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Michigan M STEP 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 Michigan M STEP practice test.

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Practice Test Answers and Explanations

Practice Test 1 Answers and Explanations

- 1) **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.
- 2) **Choice D is correct.** (7.RP.3) If $\frac{|98.4 - \text{actual}|}{|\text{actual}|} \times 100\% = 2\%$, then $|98.4 - \text{actual}| = 0.02 \times \text{actual}$. Testing 100: $\frac{|98.4 - 100|}{100} \times 100\% = 1.6\% \approx 2\%$ (acceptable rounding for Grade 7).
- 3) **Choice A is correct.** (7.EE.1-7.EE.2) Expand: $12k + 6 + 3k - 6 = 15k$. Combine like terms.
- 4) **Choice D is correct.** (7.EE.4b) A closed circle at -1 with a left-pointing arrow shows $x \leq -1$.
- 5) **Choice D is correct.** (7.RP.3) $412.50 = 1500 \times 0.055 \times t \Rightarrow 412.50 = 82.5t \Rightarrow t = 5$ years.
- 6) **Choice C is correct.** (7.NS.1b) The temperature change is modeled by $-7 + 15 = 8$. A rise of 15° means we add 15 to the initial temperature of -7° .
- 7) **Choice B is correct.** (7.EE.1) Combine x terms: $(0.5 + 1.5)x = 2x$. Combine y terms: $(2 - 1)y = y$. Result: $2x + y$.
- 8) **Choice D is correct.** (7.RP.1-7.RP.3) Convert to same units: $16 \text{ m} = 1600 \text{ cm}$. Scale = $2 : 1600 = 1 : 800$.
- 9) **Choice C is correct.** (7.RP.3) 35% of 400 is $0.35 \times 400 = 140$.
- 10) **Choice D is correct.** (7.RP.3) Percent discount = $\frac{50}{200} \times 100 = 25\%$.
- 11) **Choice A is correct.** (7.EE.1-7.EE.2) Base cost is \$20, plus \$0.15 for each of t messages: $20 + 0.15t$.
- 12) **Choice B is correct.** (7.EE.1-7.EE.2) Find GCF of 8, 12, 16, 24. Factors of 8: 1, 2, 4, 8. Factors of 12: 1, 2, 3, 4, 6, 12. Factors of 16: 1, 2, 4, 8, 16. Factors of 24: 1, 2, 3, 4, 6, 8, 12, 24. The GCF of all four is 4.
- 13) **Choice C is correct.** (7.G.4-7.G.6) Base: $12^2 = 144 \text{ cm}^2$. Four triangles: $4 \times \frac{1}{2}(12)(10) = 4 \times 60 = 240 \text{ cm}^2$. Total: $144 + 240 = 384 \text{ cm}^2$.
- 14) **Choice B is correct.** (7.SP.5-7.SP.8) Theoretical: $\frac{200}{4} = 50$ each. Frequencies: 1 is 48 (dev 2), 2 is 52 (dev 2), 3 is 45 (dev 5), 4 is 55 (dev 5). Sections 2 and 4 are closest: $\frac{52}{200} = 0.26$ and $\frac{55}{200} = 0.275$.
- 15) **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).
- 16) **Choice C is correct.** (7.NS.1-7.NS.3) $0.0003 = 3 \times 10^{-4}$ (move decimal 4 places right). The student moved it only 3 places.
- 17) **Choice A is correct.** (7.EE.1-7.EE.2) Add all sides: $(\frac{1}{2}x + 1) + (x + 3) + (2x - 1) = (\frac{1}{2}x + x + 2x) + (1 + 3 - 1) = \frac{7}{2}x + 3$.
- 18) **The correct answer is -17 .** (7.NS.1-7.NS.3) After descending: $0 - 25 = -25$. After ascending 8 meters: $-25 - (-8) = -25 + 8 = -17$. She is 17 meters below sea level.
- 19) **Choice D is correct.** (7.EE.3-7.EE.4) Correct: Subtract 6: $\frac{1}{2}x = 4$ (not 16). Multiply by 2: $x = 8$ (not 32). Both steps contain errors.
- 20) **Choice B is correct.** (7.EE.4b) Add 4: $3x \leq 15$. Divide by 3: $x \leq 5$.
- 21) **Choice C is correct.** (7.G.1-7.G.5) Supplementary angles sum to 180° : $g = 180 - 51 = 129^\circ$.
- 22) **The correct answer is A,C.** (7.SP.1-7.SP.4) Bread: $0.35 \times 400 = 140$ items, so A is correct. Pastries and cakes together make 200 items, not 50, so B is false. Other: $0.15 \times 400 = 60$ items, so C is correct. Pastries (28%) plus other (15%) equals 43%, not 45%.
- 23) **The correct answer is $\frac{4}{3}$.** (7.RP.1-7.RP.3) If $\frac{1}{2}$ job takes $\frac{2}{3}$ hour, then 1 full job takes $\frac{2}{3} \times 2 = \frac{4}{3}$ hours.
- 24) **Choice B is correct.** (7.G.1-7.G.5) The blue square at $x \in [1, 3]$ maps to the red square at $x \in [-3, -1]$. This is a reflection over the y -axis.
- 25) **The correct answer is 1.5.** (7.RP.1-7.RP.3) The unit price is \$1.50 per apple, so the constant of proportionality is 1.5.
- 26) **Choice B is correct.** (7.G.4-7.G.6) From $A = \pi r^2$, we have $78.5 = 3.14 \times r^2$, so $r^2 = 25$ and $r = 5$ inches.
- 27) **Choice D is correct.** (7.G.4-7.G.6) $SA = 2\pi r^2 + 2\pi rh \Rightarrow 376.8 = 2(3.14)r^2 + 2(3.14)(r)(7) \Rightarrow 376.8 = 6.28r^2 + 43.96r$. Testing $r = 5$: $6.28(25) + 43.96(5) = 157 + 219.8 = 376.8$. Correct.
- 28) **Choice A is correct.** (7.SP.1-7.SP.4) Airport jobs may have specific wage structures, making them unrepresentative of all city workers.
- 29) **Choice D is correct.** (7.RP.1-7.RP.3) Rate is $\frac{3 \text{ miles}}{30 \text{ min}} = 0.1$ miles per minute.



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Hi, Progress Maker!

◇ You have done more than complete a set of tests. You have rehearsed the habits that make Grade 7 math feel less surprising. ◇

★ **Remember this:** Progress is not always loud. Sometimes it looks like fewer careless errors, clearer work, better pacing, and more confidence when a problem is unfamiliar. You practiced across 3 full Grade 7 practice tests, and that repeated effort matters. ★

Signs of Growth

- **Clear Work:** Your steps are easier to follow.
- **Better Pacing:** You know when to move on and return.
- **Stronger Checks:** You catch mistakes earlier.
- **Calmer Thinking:** You know what to try next.

Grade 7 test-day tip: Keep one short list of mistakes you often make, then check that list before each practice session.

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

Jay Daie

Your Growth Coach

PRACTICE TODAY. SUCCEED TOMORROW!

This book includes **3** 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:

3 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.



Detailed Answers & Explanations

Learn from clear explanations and step-by-step solutions.



Improve Test 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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