

Michigan M STEP

GRADE 6

MATH

PRACTICE TESTS

Standards Aligned Problem Solving
For Comprehensive Assessment Programs



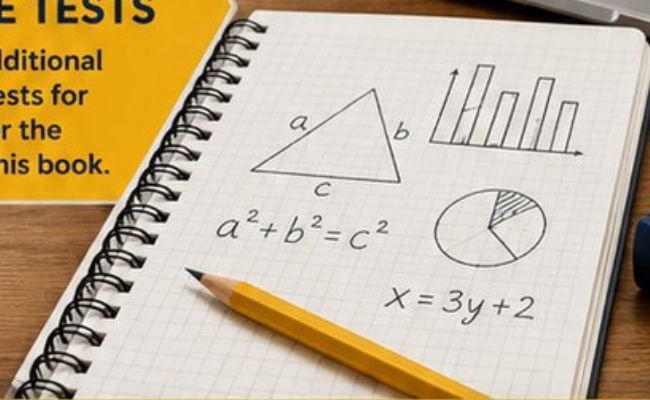
5 PRINTED TESTS

- ✓ 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.

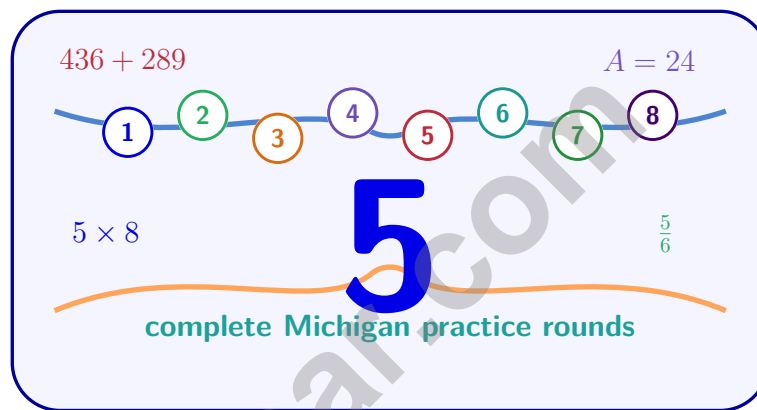


PREPARE • PRACTICE • SUCCEED



5 Michigan M-STEP Grade 6 Math Practice Tests

Standards-Aligned Great Lakes Problem Solving for Michigan Student Test of Educational Progress



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

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Welcome, Michigan Math Explorer!

Eight focused rounds using Great Lakes problem solving

This book gives you five full Grade 6 practice tests for M-STEP. Each round uses lake shores, peninsulas, and steady route planning as a fresh mental backdrop while you read closely, choose a smart strategy, show your work, and check whether your answer makes sense.

Your Michigan Practice Promise

Keep your thinking on course: map the facts, select the operation, and check the destination.

Read

Plan

Check

How to Use This Book

A five-session routine for Great Lakes problem solving

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

Michigan review rhythm: After each round, look for patterns in mistakes and steer the next practice session toward them.



What Is Inside?

Eight M-STEP 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. Great lakes problem solving means recognizing the skill even when the next question changes topic, changes format, or asks for an explanation.

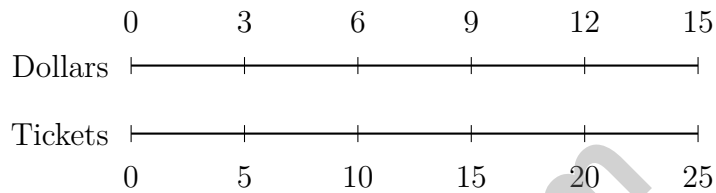


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For more practice
& answers

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- 9) A dataset has 8 values with a mean of 45. If 7 of the values are {38, 40, 42, 44, 46, 48, 50}, what is the eighth value?



10)

Based on the double number line, which statements are true?

- A. 1 ticket costs \$0.60 C. 25 tickets cost \$15
 B. 5 tickets cost \$3 D. All of the above
- 11) A restaurant uses 5 pounds of butter to make 80 cookies. How much butter is used per cookie in pounds?
- A. 0.0625 pounds C. 0.25 pounds
 B. 0.125 pounds D. 0.5 pounds
- 12) A car travels at a constant speed. The table shows equivalent distances and times:

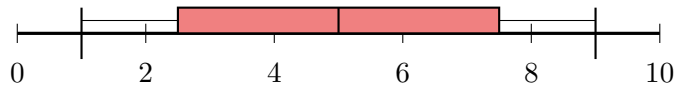
Distance (miles)	Time (hours)
60	1
120	2
?	3

- A. 160 C. 200
 B. 180 D. 220

1) A model car is 8 cm long. The scale is 1 cm = 2 meters. How long is the actual car?

- A. 8 meters C. 20 meters
 B. 10 meters D. 16 meters

2) Use the box plot below. What is the IQR?



- A. 1.5 C. 5
 B. 3.5 D. 8
- 3) A dot plot shows: {5, 8, 12, 15, 18, 22, 28}. Identify the shape.
- A. Symmetric C. Skewed right
 B. Skewed left D. Bimodal

4) A classroom has 28 students. If 7 students ride the bus, what is the probability that a randomly selected student does **not** ride the bus?

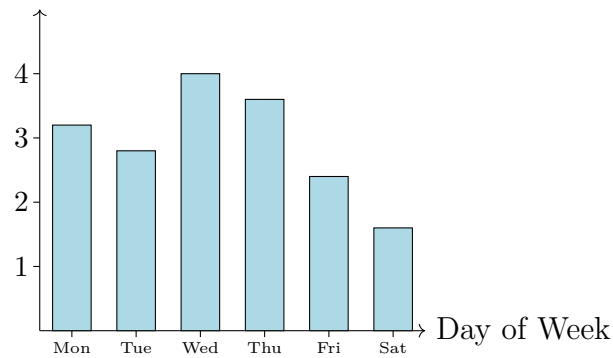
- A. $\frac{1}{4}$ C. $\frac{3}{4}$
 B. $\frac{1}{3}$ D. $\frac{4}{5}$

5) A school cafeteria serves 400 lunches. The circle graph shows $\frac{3}{8}$ are vegetarian. How many lunches are vegetarian?

- A. 120 C. 150
 B. 100 D. 175



Cups of Water



6)

This bar graph shows how many cups of water a student drank each day. On which day did the student drink the MOST water?

- A. Monday
 B. Friday
 C. Thursday
 D. Wednesday

7) Identify the error: A student wrote $2(4x + 3) = 8x + 3$. What mistake did the student make?

- A. Did not distribute 2 to the 3
 B. Incorrectly multiplied 2×4
 C. Combined unlike terms
 D. Subtracted instead of multiplying

8) Find $|-18|$.

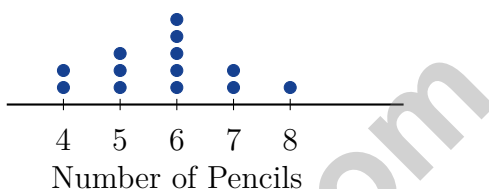


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1) If -7 and 7 are plotted on a number line, which option identifies all true statements about them?

- A. The same distance from zero C. On opposite sides of zero
 B. Opposites D. All of the above

2) A dot plot shows the number of pencils in each student's pencil case. Which statement is true about the data?



A. Most students have 4 pencils C. Most students have 8 pencils
 B. Most students have 6 pencils D. No students have 7 pencils

3) A box plot shows: $\min = 5$, $Q_1 = 15$, $\text{median} = 20$, $Q_3 = 25$, $\max = 40$. What is the range?

- A. 10 C. 35
 B. 20 D. 40

4) A sports analyst compares two athletes' scoring consistency. Athlete A: 10 games with $\text{mean} = 18$ points, $\text{IQR} = 4$. Athlete B: 10 games with $\text{mean} = 18$ points, $\text{IQR} = 8$. If a coach needs a reliable scorer for an important game, whom should she choose?

- A. Athlete A, due to smaller IQR D. Cannot decide without knowing all scores
 B. Athlete B, due to higher variability
 C. Both equally reliable



Michigan M-STEP Practice Test Answer Keys

How to use this Michigan M-STEP 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 Great Lakes problem solving
3. rework the problem before reading the full explanation, using this reminder:
Keep your thinking on course: map the facts, select the operation, and check the destination.

A calm Michigan correction routine turns every missed item into useful practice. After each round, look for patterns in mistakes and steer the next practice session toward them.



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Michigan Practice Test Answers and Explanations

Review the five printed M-STEP tests with steady, aware, and ready to keep navigating habits.

Practice Test 1 Answers and Explanations

- Choice B is correct.** **(6.EE.A.2b)** When a variable appears with no visible number, the coefficient is 1. So $m = 1m$.
- Choice D is correct.** **(6.RP.A.3)** Multiply: $6 \text{ cm} \times 0.5 \text{ m/cm} = 3 \text{ m}$.
- Choice C is correct.** **(6.RP.A.3c)** Depreciation is 15% of \$20,000 = $0.15 \times 20,000 = \$3,000$. Value after one year is $\$20,000 - \$3,000 = \$17,000$.
- Choice A is correct.** **(6.NS.B.3)** Multiply: $2.35 \times 5 = 11.75$ minutes.
- Choice A is correct.** **(6.NS.C.7d)** The most negative value is the deepest. $-800 < -600 < -450$, so Sub A at -800 ft is deepest.
- Choice A is correct.** **(6.NS.C.8)** Reflection over the x -axis: $Q(1, 2) \rightarrow Q'(1, -2)$.
- Choice D is correct.** **(6.RP.A.1)** Both 25 and 35 are divisible by 5. Dividing both parts by 5 gives $\frac{25}{5} : \frac{35}{5} = 5 : 7$.
- Choice D is correct.** **(6.RP.A.3)** Yes. If apples to oranges is $7 : 3$, then reversing the order to oranges to apples also reverses the numbers, giving $3 : 7$.
- The correct answer is 52.** **(6.SP.B.5)** Mean = sum / count. $45 = \text{sum}/8 \Rightarrow \text{sum} = 360$. Sum of 7 known values = $38 + 40 + 42 + 44 + 46 + 48 + 50 = 308$. Eighth value = $360 - 308 = 52$.
- Choice D is correct.** **(6.RP.A.3d)** The unit rate is $3 \div 5 = 0.60$ dollars per ticket. Statements A, B, and C are all correct: one ticket at \$0.60, five tickets at \$3.00, and twenty-five tickets at \$15.00.
- Choice A is correct.** **(6.RP.A.3b)** $5 \div 80 = 0.0625$ pounds per cookie.
- Choice B is correct.** **(6.RP.A.3)** The car travels 60 miles per hour. In 3 hours: $60 \times 3 = 180$ miles.
- Choice A is correct.** **(6.RP.A.3a)** For the equation $y = 6x$: when $x = 1$, $y = 6(1) = 6$, so $(1, 6)$ is on the line. Check other options: $(2, 8)$ gives $8 \neq 12$; $(3, 12)$ gives $12 \neq 18$; $(4, 18)$ gives $18 \neq 24$. Only A satisfies the equation.
- Choice C is correct.** **(6.RP.A.3c)** Shaded: 4 columns \times 10 rows = 40 squares. Unshaded: $100 - 40 = 60$ squares.
- Choice D is correct.** **(6.RP.A.3)** Cross-multiply: $2 \times x = 3 \times 8$, so $2x = 24$, thus $x = 12$.
- Choice B is correct.** **(6.RP.A.3d)** Multiply: $3 \times 1000 = 3000$ mL.
- Choice A is correct.** **(6.NS.C.7d)** Compare unit prices instead of just sizes. Small: $\$3.20 \div 16 = \0.20 per oz. Large: $\$5.00 \div 20 = \0.25 per oz. The small bottle is actually cheaper per ounce, so Omar's mistake was choosing without calculating the unit price.
- The correct answer is The box shows the middle 50% (from Q_1 to Q_3), and the whiskers extend to min and max.** **(6.RP.A.1)** B is correct: the box spans from Q_1 to Q_3 , the middle 50% of the data. E is correct: the whiskers extend out to the minimum and maximum. A is wrong because the median splits the data by count, not necessarily at the numerical center. C is wrong because IQR is $Q_3 - Q_1$, not $\text{max} - \text{min}$. D is wrong because Q_1 is at most equal to the median, not strictly below it (they can be equal when many values cluster at the lower end).
- Choice B is correct.** **(6.NS.C.7d)** From the double number line: 2 meters = 6.56 feet, so $k = 6.56/2 = 3.28$ feet per meter. This is consistent with 4 meters = 13.12 feet: $13.12/4 = 3.28$.
- The correct answer is 20.** **(6.NS.B.3)** Expected number of spins = $0.2 \times 100 = 20$ times.
- Choice D is correct.** **(6.EE.C.9)** 3 years = 36 months. Total: $\$75 \times 36 = \2700 .
- Choice C is correct.** **(6.NS.A.1)** $4\frac{1}{2} = \frac{9}{2}$, so $\frac{9}{2} \div \frac{3}{8} = \frac{9}{2} \times \frac{8}{3} = \frac{72}{6} = 12$.
- Choice A is correct.** **(6.NS.B.2)** $5,625 \div 45 = 125$. Verify: $45 \times 125 = 5,625$.
- Choice B is correct.** **(6.NS.B.4)** Common factors shared by 32 and 48 are 1, 2, 4, 8, and 16; the greatest is 16. (You can also peel out matching prime factors: both have four factors of 2 in common.)
- Choice B is correct.** **(6.NS.B.4)** GCF of 35 and 49 is 7. So $35 + 49 = 7(5 + 7)$. Only Choice B uses the GCF and whole numbers.
- Choice C is correct.** **(6.NS.C.6c)** -1.8 and -0.2 are negative (left of zero), and 1.4 is positive (right of zero).



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Hi, Math Athlete!

◇ 5 practice tests done! That's serious training. Your math muscles are strong. You are in great shape for the big test. ◇

★ **Trainers know:** muscle memory is real. The more you practice, the more your brain knows what to do without thinking. You built that muscle memory! ★

Athlete Performance

- **Endurance:** TOP! You can finish a long test.
- **Strength:** STRONG! You handle hard problems.
- **Speed:** JUST RIGHT! You don't rush.
- **Recovery:** GOOD! You bounce back from tough questions.

Trainer tip: on test day, drink water, breathe deeply, and warm up with the easier questions first. Your training will carry you the rest of the way!

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

Jay Daie

Your Math Trainer

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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