

# 9

# Michigan M STEP

GRADE

# 6

MATH

## PRACTICE TESTS

Standards-Aligned Review  
Mixed Practice & Answer Key



### 9 PRINTED TESTS

Realistic practice to build confidence and mastery



### DETAILED ANSWER EXPLANATIONS

Learn with step-by-step solutions



### FOCUSED & EFFECTIVE

Target key math skills with purposeful practice



### BUILD CONFIDENCE

Strengthen problem solving and test-taking skills



9 PRINTED TESTS  
+2 ONLINE TESTS

Use these two additional online practice tests for extra review after the printed tests in this book.

**PRACTICE TODAY.  
SUCCEED TOMORROW.**



PRACTICE



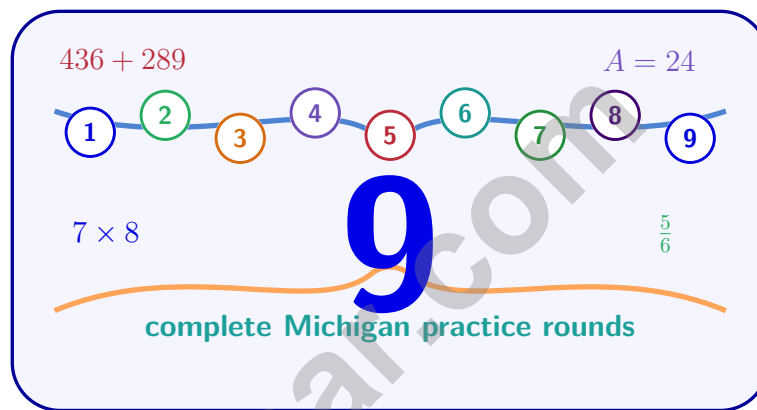
REVIEW



SUCCEED

# 9 Michigan M-STEP Grade 6 Math Practice Tests

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



Nine 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.

**Jay Daie and Reza Nazari**



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# Welcome, Michigan Math Explorer!

Nine focused rounds using Great Lakes problem solving

This book gives you nine 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 nine-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?

Nine M-STEP tests, 360 questions, and a full review path

Part	What You Will Practice
Tests 1–3	Foundation rounds for ratios, rational numbers, operations, and careful reading.
Tests 4–6	Skill-building rounds with expressions, equations, geometry, data, and problem models.
Tests 7–9	Final stamina rounds 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.

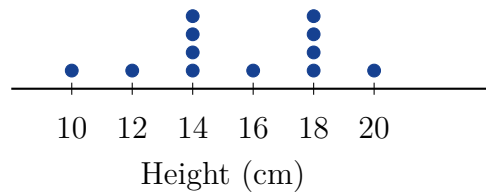


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For more practice  
& answers

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- 1) A dot plot displays measurements of plant heights. If the dot plot shows a bimodal distribution, this means:



- A. There is one peak in the distribution  
 B. The data is skewed to one side  
 C. All data values are the same  
 D. There are two distinct peaks in the distribution
- 2) What is  $|-1| + |1|$ ?
- A. -2  
 B. 0  
 C. 1  
 D. 2
- 3) What is  $\frac{4}{5} \div \frac{2}{3}$ ?
- A.  $\frac{8}{15}$   
 B.  $\frac{2}{15}$   
 C.  $\frac{10}{12}$   
 D.  $\frac{6}{5}$
- 4) What is  $7,328 \div 32$ ?
- A. 229  
 B. 225  
 C. 226  
 D. 230



5) A fabric costs \$8.50 per meter. How much does 2.5 meters cost?

- A. \$21.25                       C. \$5.75  
 B. \$10.75                       D. \$20.00

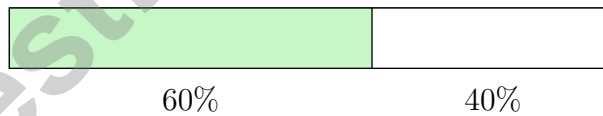
6) Find the GCF of 38 and 57 using prime factorization.

- A. 1                                       C. 38  
 B. 57                                     D. 19

7) A cyclist travels 45 miles in  $\frac{3}{2}$  hours. What is the unit rate in miles per hour?

8) Which expansion is correct for  $9(5 + 2)$ ?

- A.  $45 + 18$                        C.  $9 + 5 + 9 + 2$   
 B.  $45 + 2$                          D. 90



9) Total: 150 students

How many students are in the 60% section?



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10) Which statement is true?

A.  $-10 < -5$

C.  $-3 > -8$

B.  $-5 > 0$

D.  $0 < -1$

11) Three numbers are plotted on a number line:  $-\frac{3}{2}$ ,  $-1$ , and  $-\frac{1}{2}$ . Which order is correct?

A.  $-1 < -\frac{1}{2} < -\frac{3}{2}$

C.  $-\frac{1}{2} < -1 < -\frac{3}{2}$

B.  $-\frac{1}{2} < -\frac{3}{2} < -1$

D.  $-\frac{3}{2} < -1 < -\frac{1}{2}$

12) In which quadrant is the point  $(-3, 4)$  located?

 A. Quadrant I C. Quadrant III B. Quadrant II D. Quadrant IV

13)



If  $A = 1$  and  $B = 4$ , order  $-A$ ,  $-B$ , and  $0$ .

A.  $-B < -A < 0$

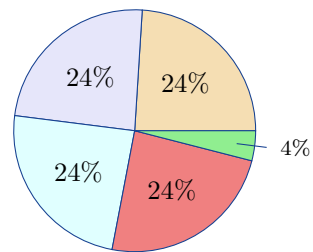
C.  $0 < -A < -B$

B.  $-A < -B < 0$

D.  $-B = -A$

14) Points  $P(0, -2)$  and  $Q(6, -2)$  are plotted on a coordinate plane. What is the distance from  $P$  to  $Q$ ?

 A. 4 units C. 6 units B. 5 units D. 7 units



1)

The circle graph shows data from 500 items. How many items are represented by the 4% section?

 A. 20 C. 10 B. 15 D. 25

2) A garden plot is  $2\frac{1}{2}$  acres. If you divide it into sections of  $\frac{5}{8}$  acre each, how many sections do you have?

3) What is  $4^3$ ? A. 12 C. 64 B. 16 D. 81

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4) Consider the expression and its parts:

**Expression:**  $8 - 3x + 6y$

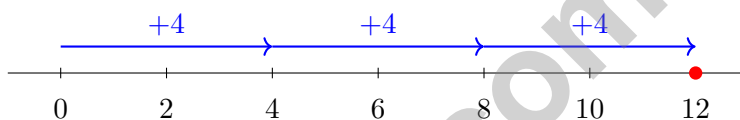
**Constant:** 8

**Variable terms:**  $-3x, 6y$

**Coefficients:**  $-3, 6$

In the term  $-3x$ , how many factors are being multiplied together?

- A. 1                                       C. 3  
 B. 4                                       D. 2



5)

The number line shows three equal jumps from 0 that land on 12. Which multiplication does this represent?

- A.  $3 \times 4$                                        C.  $3 \times 3$   
 B.  $4 \times 4$                                        D.  $4 + 3$

6) Which expression matches “the difference of the quotient of 18 and 2 and a number  $w$ ”?

- A.  $\frac{18 - w}{2}$                                        C.  $w - \frac{18}{2}$   
 B.  $18 - \frac{2}{w}$                                        D.  $\frac{18}{2} - w$



- 1) A pet supply store tracks inventory using ratio tables. Which pair of tables shows the same ratio?

Table 1: Dogs to Cats

Dogs	Cats
3	4
6	8

Table 2: Dogs to Cats

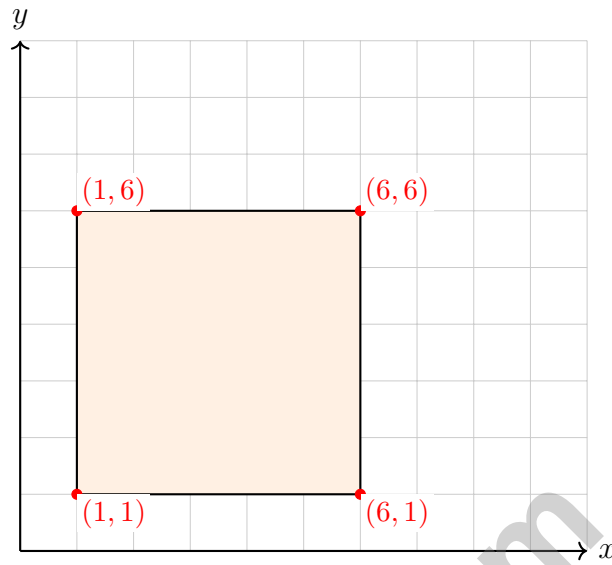
Dogs	Cats
5	10
10	20

- A. Table 1 and Table 2 show the same ratio
- B. Both tables simplify to 2 : 3
- C. They represent different proportions
- D. Table 1 is 3 : 4; Table 2 is 1 : 2
- 2) A dot plot shows the number of pets owned by 10 families: 0, 1, 1, 2, 2, 2, 3, 3, 4, 5. Which measure of center is MOST resistant to the outlier value of 5 pets?

- A. Mean
- B. Median
- C. Mode
- D. Range



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3)

Is this a square or a rectangle?

- A. Square
- B. Rectangle but not a square
- C. Trapezoid
- D. Parallelogram



**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 nine printed M-STEP tests with steady, aware, and ready to keep navigating habits.

### Practice Test 1 Answers and Explanations

- Choice D is correct.** **(6.SP.B.4)** A bimodal distribution has two modes (peaks). This dot plot shows two peaks: one at 14 cm (frequency 4) and another at 18 cm (frequency 4). The values in between are lower, so the data clusters at two distinct points.
- Choice D is correct.** **(6.NS.C.7c)**  $|-1| = 1$  and  $|1| = 1$ , so  $1 + 1 = 2$ .
- Choice D is correct.** **(6.NS.A.1)**  $\frac{4}{5} \times \frac{3}{2} = \frac{12}{10} = \frac{6}{5}$ .
- Choice A is correct.** **(6.NS.B.2)**  $7,328 \div 32 = 229$ . Check by multiplying back:  $32 \times 229 = 7,328$ , so the division is exact.
- Choice A is correct.** **(6.NS.B.3)** Multiply:  $\$8.50 \times 2.5 = \$21.25$ .
- Choice D is correct.** **(6.NS.B.4)** Prime factorization:  $38 = 2 \times 19$  and  $57 = 3 \times 19$ . The only common prime factor is 19, so GCF is 19.
- The correct answer is 30 mph.** **(6.RP.A.3b)**  $45 \div \frac{3}{2} = 45 \times \frac{2}{3} = 30$  miles per hour.
- Choice A is correct.** **(6.NS.B.4)**  $9(5 + 2) = 9 \cdot 5 + 9 \cdot 2 = 45 + 18 = 63$ . Choice A shows the correct expanded form.
- The correct answer is 90.** **(6.RP.A.3c)** 60% of 150 =  $0.60 \times 150 = 90$  students.
- Choice C is correct.** **(6.NS.C.5)** On a number line,  $-3$  is to the right of  $-8$ , so  $-3$  is greater than  $-8$ . The fewer negative units from zero, the greater the number.
- Choice D is correct.** **(6.NS.C.6c)** In decimal form:  $-1.5 < -1 < -0.5$ . The more negative the number, the smaller it is.
- Choice B is correct.** **(6.NS.C.8)** The point  $(-3, 4)$  has a negative  $x$ -coordinate and a positive  $y$ -coordinate. Points with  $(-, +)$  are in Quadrant II.
- Choice A is correct.** **(6.NS.C.7d)**  $-B = -4$  and  $-A = -1$ . Since  $-4 < -1 < 0$ , the order is  $-B < -A < 0$ .
- Choice C is correct.** **(6.NS.C.8)** Same  $y$ -coordinate  $(-2)$ :  $|6 - 0| = 6$  units.
- Choice D is correct.** **(6.NS.B.3)** The integers  $-7$  and  $7$  are opposites, so  $-7 + 7 = 0$ .
- Choice D is correct.** **(6.EE.A.3)** Distribute:  $5(4 - x) = 5 \cdot 4 - 5 \cdot x = 20 - 5x$ .
- Choice B is correct.** **(6.EE.B.6)** "4 meters less" means subtract 4 from the length.
- Choice B is correct.** **(6.EE.B.8)** "Below 75" means strictly less than, not including 75. The inequality is  $T < 75$ .
- Choice B is correct.** **(6.G.A.1)** Rectangle area =  $12 \times 5 = 60 \text{ cm}^2$ . Triangle with base 10 and height 12:  $A = \frac{1}{2} \times 10 \times 12 = 60 \text{ cm}^2$ .
- The correct answer is Food and Transportation are correctly calculated.** **(6.EE.C.9)** A: Housing is  $35\% \times 2000 = \$700$ , not  $\$800$ . Incorrect. B: Food is  $25\% \times 2000 = \$500$ . Correct. C: Utilities is  $12\% \times 2000 = \$240$ , not  $\$260$ . Incorrect. D: Transportation is  $10\% \times 2000 = \$200$ . Correct. E: Other is  $18\% \times 2000 = \$360$ , not  $\$450$ . Incorrect.
- Choice D is correct.** **(6.G.A.2)**  $\frac{80}{3} = \frac{10}{3} \times 4 \times H = \frac{40}{3} \times H$ , so  $H = 2$  cm.
- Choice C is correct.** **(6.RP.A.1)** Area =  $\pi r^2 \approx 3.14 \times 3^2 = 3.14 \times 9 = 28.26 \text{ ft}^2$ .
- Choice D is correct.** **(6.SP.B.5)** Left-skewed means the tail points left (low values). Mean (42) < median (48) indicates low-value outliers pulling the mean down. These outliers are students with very short reading times.
- Choice A is correct.** **(6.SP.B.4)** Range = Max - Min =  $175 - 140 = 35$  cm.
- Choice C is correct.** **(6.NS.B.3)** A loss of  $\$2000$  per quarter for 4 quarters:  $(-2000) \times 4 = -8000$ .
- Choice D is correct.** **(6.EE.A.3)** Weight changes:  $180 - 12 - 8 + 5 = 180 - 20 + 5 = 165$  lbs.
- Choice D is correct.** **(6.EE.A.2a)** "The difference of  $h$  and 2" is  $(h - 2)$ . "The product of 6 and" that difference is  $6(h - 2)$ .
- Choice D is correct.** **(6.EE.A.2c)** Substitute:  $2(3) + 5(2) = 6 + 10 = 16$ .



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From Your Math Family

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Hi, Math Family Member,

◇ Welcome to a special note from your math family. You finished 9 full practice tests, and that hard work matters more than any score. We see you. We are proud of you. ◇

★ **Our math family knows:** math is a journey. You have taken many steps already. The test is just one stop. Every skill you built is yours forever. ★

**What Your Math Family Sees**

- **Hard Work:** You keep showing up.
- **Real Growth:** You can do problems today you couldn't before.
- **Brave Heart:** You face hard problems with brave thinking.
- **Bright Future:** Your math journey is just beginning.

**Family tip:** on test day, picture us standing behind you, smiling and rooting for you. You are not alone. Your math family is with you!

If you want to share something or ask a question, please email me at [jay@testinar.com](mailto:jay@testinar.com).

**Jay Daie**

Your Math Family

# PRACTICE MORE. ACHIEVE MORE.

This **Grade 6 Math Practice Tests** book is designed to help students strengthen their math skills, master important concepts, and build the confidence they need to excel on any test.

With 9 full-length printed tests and 2 online tests, students get the review, practice, and realistic test experience they need to improve accuracy, develop problem-solving abilities, and reach their full potential.

Perfect for classroom use, homework, test preparation, and extra practice at home.

## PERFECT FOR:

- ✓ Classroom Practice
- ✓ Homework & Review
- ✓ Independent Learning
- ✓ Test Preparation
- ✓ Skill Reinforcement
- ✓ Building Confidence

★ PRACTICE TODAY.  
SUCCEED TOMORROW.

## WHAT STUDENTS WILL 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 math concepts aligned with standards.



### Test Confidence

Get familiar with test formats and improve accuracy.



### Achieve Success

Build confidence and perform your best on test day.

## TOPICS COVERED

- ✓ Ratios & Rates
- ✓ The Number System
- ✓ Expressions & Equations
- ✓ Geometry
- ✓ Fractions & Decimals
- ✓ Percents
- ✓ Statistics & Probability
- ✓ Data Analysis
- ✓ Measurement & Conversions
- ✓ And More!



### 2 ONLINE TESTS

Extra online practice to reinforce learning and build confidence.

## MORE PRACTICE. GREATER RESULTS.

Give your child the tools needed to develop strong math skills, confidence, and a positive attitude toward learning.



9 PRINTED  
PRACTICE TESTS



2 ONLINE  
PRACTICE TESTS



DETAILED ANSWER  
EXPLANATIONS