

4 Michigan M STEP

GRADE
6
MATH

PRACTICE TESTS

Standards Aligned Problem Solving
For Comprehensive Assessment Programs

4

PRINTED
TESTS



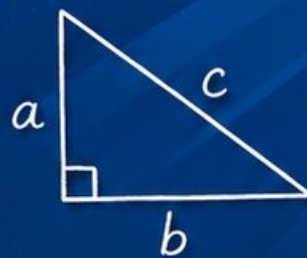
2

ONLINE
TESTS



- ✓ Build Confidence
- ✓ Master Key Math Skills
- ✓ Answer Explanations for Every Question
- ✓ Test-Taking Strategies That Work

$$2x + 5 = 21$$
$$x = 8$$



$$\frac{3}{4} + \frac{1}{2} = \frac{5}{4}$$

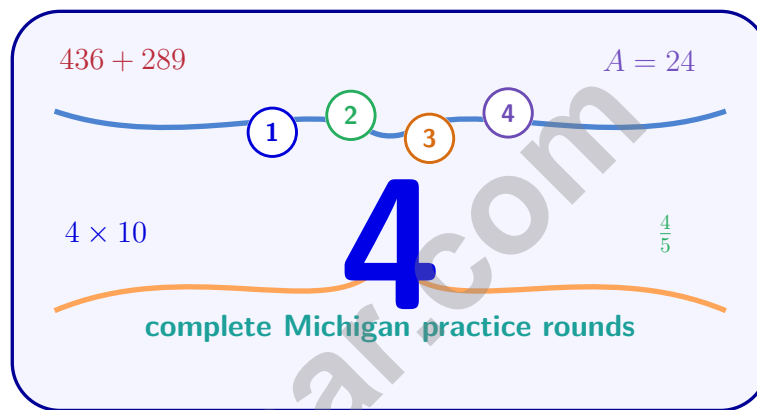


USE THESE TWO
**ADDITIONAL ONLINE
PRACTICE TESTS**

FOR EXTRA REVIEW AFTER
THE PRINTED TESTS
IN THIS BOOK.

4 Michigan M-STEP Grade 6 Math Practice Tests

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



Four 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!

Four focused rounds using Great Lakes problem solving

This book gives you four 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 four-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?

Four M-STEP tests, 160 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 and final stamina rounds with expressions, equations, geometry, data, and problem models.
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.



Scan me!
For more practice
& answers

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1) In the stem-and-leaf plot above (Question 8), how many scores are in the 70s?

- A. 3 C. 5
 B. 4 D. 6

2) Which fraction is located between 0 and 1 on a number line?

- A. $-\frac{2}{5}$ C. $\frac{5}{4}$
 B. $\frac{3}{10}$ D. $\frac{7}{6}$

3) Which list shows the numbers in order from least to greatest?

$-2.5, \frac{1}{4}, -3, 1.75$

- A. $-3, -2.5, \frac{1}{4}, 1.75$ C. $-2.5, -3, \frac{1}{4}, 1.75$
 B. $\frac{1}{4}, 1.75, -2.5, -3$ D. $1.75, \frac{1}{4}, -2.5, -3$

4) If the distance between points $(0, a)$ and $(0, -5)$ is 8 units, what is a ?

- A. $a = 3$ or $a = -13$ C. $a = 2$ or $a = -12$
 B. $a = -3$ or $a = 13$ D. $a = 5$ or $a = -8$

5) An error was made: a student computed $8 \times (-6)$ and got 48. What is the correct answer?

- A. 48 (correct) C. 2 (student should divide)
 B. -48 (positive times negative is negative) D. 14 (student should add)



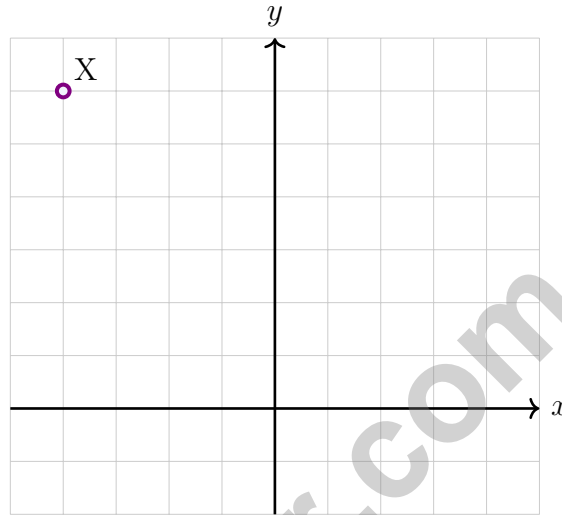
9) A rectangular prism has dimensions $5\text{ cm} \times 5\text{ cm} \times 15\text{ cm}$. What is its surface area?

A. 200 cm^2

C. 300 cm^2

B. 250 cm^2

D. 350 cm^2



10)

Point X starts at $(-4, 6)$. It is translated 4 units right and 3 units down. What are the coordinates of X' ?

A. $(0, 3)$

C. $(0, 9)$

B. $(-8, 9)$

D. $(-8, 3)$

11) A circle has a radius of 6 meters. Using $\pi \approx 3.14$, which is the approximate area?

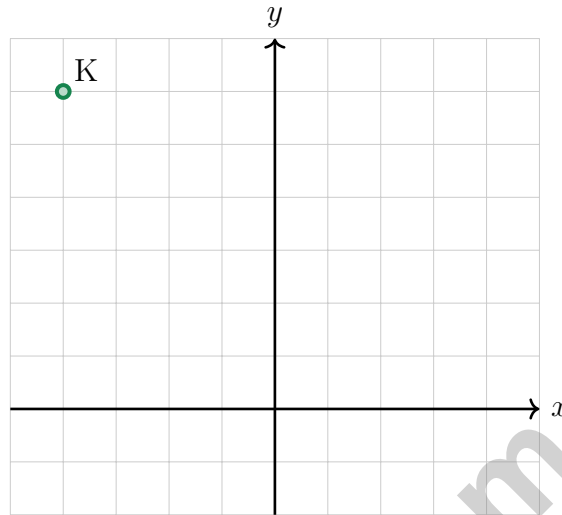
A. 18.84 m^2

C. 226.08 m^2

B. 37.68 m^2

D. 113.04 m^2





1)

Point K is at $(-4, 6)$. It is translated 4 units right and 3 units down. What are the coordinates of K' ?

- A. $(0, 3)$
- B. $(-8, 9)$
- C. $(0, 9)$
- D. $(-8, 3)$

2) Consider these two questions:

Question A	Question B
What is the weight of my dog?	What are the weights of dogs in my neighborhood?

Which statement is correct?

- A. Both are statistical.
- B. Question A is statistical; Question B is not.
- C. Question A is non-statistical; Question B is statistical.
- D. Neither is statistical.

3) In a box plot, the upper whisker extends from Q_3 to:

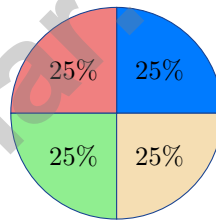
- A. The median C. The maximum
 B. Q_1 D. The mean

4) Grade distribution histogram: 60–69 (5 students), 70–79 (8 students), 80–89 (10 students), 90–100 (7 students). In which interval is the median grade?

- A. 60~69 C. 80~89
 B. 70~79 D. 90~100

5) A restaurant offers a choice of 3 soups, 4 main dishes, and 2 desserts. How many different meal combinations are possible if you choose one item from each category?

- A. 9 C. 24
 B. 12 D. 36



6)

A restaurant surveyed 180 customers about their favorite drink. The circle graph shows 25% like coffee. How many customers prefer coffee?

- A. 45 C. 25
 B. 35 D. 55



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1) Which expression is equivalent to $10(2y + 1)$?

A. $20y + 1$

C. $2y + 10$

B. $12y + 11$

D. $20y + 10$

2) A painter charges \$40 per hour. If the painter works for 3.5 hours, what is the total charge? Show that the relationship between hours and cost is proportional by checking that the equation $c = 40h$ passes through the origin.

3) What is $\frac{9}{10} \div \frac{3}{5}$?

A. $\frac{27}{50}$

C. $\frac{10}{15}$

B. $\frac{27}{15}$

D. $\frac{3}{2}$

Remainder Interpretation: $8,350 \div 40$

$$40 \times 200 = 8,000 \Rightarrow \text{remainder } 350$$

$$40 \times 8 = 320 \Rightarrow \text{remainder } 30$$

Quotient: 208, Remainder: 30

As a mixed number: $208\frac{30}{40} = 208\frac{3}{4}$

As a decimal: 208.75

4)

What is $8,350 \div 40$ expressed as a mixed number?

A. $208\frac{30}{40}$ or $208\frac{3}{4}$

C. $209\frac{1}{4}$

B. $207\frac{1}{2}$

D. $206\frac{7}{8}$



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& answers

5) What is the greatest common factor (GCF) of 24 and 36?

A. 6

C. 12

B. 8

D. 24

6) Which expression is equivalent to $18 + 24$ using the distributive property?

A. $6(3 + 4)$

C. $2(9 + 24)$

B. $6(3 + 24)$

D. $3(6 + 8)$

7) Which statement correctly compares the numbers using a number line?

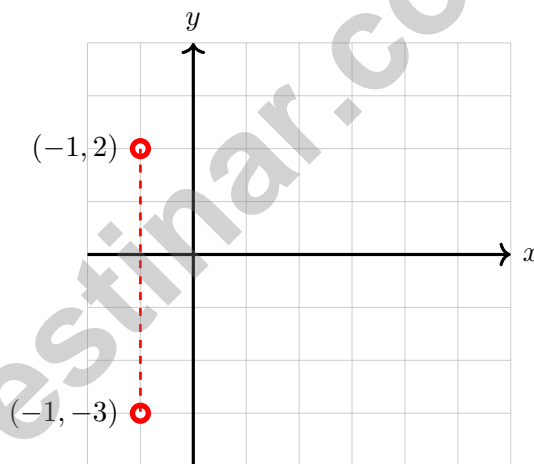
A. $-2.5 < -2$

C. $-1.2 < -1.5$

B. $-0.8 > 0$

D. $0.3 < 0.2$

8)



What is the distance between $(-1, 2)$ and $(-1, -3)$?

A. 4 units

C. 6 units

B. 5 units

D. 7 units



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.



Michigan Practice Test Answers and Explanations

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

Practice Test 1 Answers and Explanations

- Choice C is correct. **(6.SP.B.4)** Stem 7 has leaves 1, 3, 4, 6, 9, which is 5 leaves total.
- Choice B is correct. **(6.NS.C.6c)** $\frac{3}{10} = 0.3$, which is between 0 and 1. All other choices are either negative or greater than 1.
- Choice A is correct. **(6.NS.C.7d)** On a number line, more negative numbers are less. $-3 < -2.5 < 0 < \frac{1}{4} < 1.75$.
- Choice A is correct. **(6.NS.C.8)** Same x -coordinate (0): $|a - (-5)| = 8$, so $|a + 5| = 8$. Thus $a + 5 = 8$ or $a + 5 = -8$, giving $a = 3$ or $a = -13$.
- Choice B is correct. **(6.NS.B.3)** Positive times negative is negative, so $8 \times (-6) = -48$. The student ignored the negative sign.
- Choice C is correct. **(6.EE.A.3)** Site A: $500 - 80 = 420$ m. Site B is 150 m lower: $420 - 150 = 270$ m.
- Choice D is correct. **(6.G.A.2)** $V = B \times h = 18 \times 4 = 72 \text{ cm}^3$.
- Choice B is correct. **(6.G.A.1)** Base: $8 - 2 = 6$ units. Height: $7 - 1 = 6$ units. Area = $\frac{1}{2} \times 6 \times 6 = 18$ square units.
- Choice D is correct. **(6.G.A.4)** $SA = 2LW + 2LH + 2WH = 2(5)(5) + 2(5)(15) + 2(5)(15) = 50 + 150 + 150 = 350 \text{ cm}^2$.
- Choice A is correct. **(6.NS.C.8)** Translate right 4 by adding 4 to the x -coordinate, and translate down 3 by subtracting 3 from the y -coordinate: $(-4 + 4, 6 - 3) = (0, 3)$.
- Choice D is correct. **(6.RP.A.1)** Area = $\pi r^2 \approx 3.14 \times 6^2 = 3.14 \times 36 = 113.04 \text{ m}^2$.
- The correct answer is 37.5%. **(6.RP.A.3c)** $\frac{3}{8} = 0.375$, and $0.375 \times 100 = 37.5\%$.
- The correct answer is 600. **(6.RP.A.3)** Step 1: Find the unit rate: $240 \div 8 = 30$ widgets per hour. Step 2: In 20 hours: $30 \times 20 = 600$ widgets.
- Choice B is correct. **(6.NS.B.3)** Add: $0.75 + 1.40 + 2.10 = 4.25$. Align all decimal points first.
- Choice B is correct. **(6.NS.C.8)** The origin is the intersection of the x -axis and y -axis, located at the coordinates $(0, 0)$.
- The correct answer is 12. **(6.RP.A.3d)** Divide: $96 \text{ fl oz} \div 8 \text{ fl oz/cup} = 12$ cups.
- Choice D is correct. **(6.NS.B.3)** The distance from -3 to 8 is $8 - (-3) = 8 + 3 = 11$ units.
- Choice C is correct. **(6.G.A.1)** Area = $\frac{1}{2}(20 + 8) \times 6 = \frac{1}{2}(28)(6) = 84 \text{ m}^2$.
- Choice C is correct. **(6.G.A.3)** For a horizontal segment: $10 - 2 = 8$ units.
- Choice B is correct. **(6.NS.C.7d)** A proportional relationship has a constant ratio between variables. Its graph is a straight line through the origin, and the constant ratio is the constant of proportionality.
- The correct answer is The unit rate is 25 items per hour, and the y -value when $x = 1$ is 25. **(6.RP.A.3a)** A is correct because $50 \div 2 = 25$ items per hour. D is correct because when $x = 1$, $y = 25$. Choice B is false for a proportional relationship, Choice C should be $y = 25x$, and Choice E is false.
- Choice C is correct. **(6.EE.C.9)** Emergency and Car: $(22\% + 16\%) = 38\%$ of $\$5000 = 0.38 \times 5000 = \1900 .
- Choice C is correct. **(6.RP.A.3)** Multiply: $7 \times 2 = 14$ feet.
- Choice B is correct. **(6.NS.A.1)** Invert $\frac{4}{5}$ to $\frac{5}{4}$, then multiply: $\frac{2}{3} \times \frac{5}{4} = \frac{10}{12}$. That reduces nicely to $\frac{5}{6}$.
- Choice A is correct. **(6.NS.B.2)** $9,360 \div 48 = 195$. Check: $48 \times 195 = 9,360$.
- Choice B is correct. **(6.NS.B.4)** $100 = 4 \times 25 = (2 \times 2) \times (5 \times 5) = 2^2 \times 5^2$. Options A, C, and D use composite numbers.
- Choice A is correct. **(6.NS.B.4)** Distributive property: $10(3 + 9) = 10 \cdot 3 + 10 \cdot 9 = 30 + 90 = 120$. Choice A shows the expanded form.
- Choice C is correct. **(6.NS.C.5)** Negative integers represent values less than zero. A debt of $\$8$ means owing money, which is represented by -8 .



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A Note From Your Math Friend

Hi, Math Star!

◇ Wow! You finished 4 full practice tests. That is a LOT of math problems. You worked hard, and your brain got stronger every time. ◇

★ **Here is a big idea:** mistakes are okay! Every time you got something wrong, you got smarter. Through 4 tests, you learned that trying is the most important thing. ★

Look What You Did!

- **Hard Worker:** You did not give up!
- **Smart Thinker:** You used your math tools.
- **Brave Learner:** You tried hard problems.
- **Test Ready:** You feel proud and prepared.

Big tip for test day: take your time. Read each problem twice. Show your work. Check your answer. You can do this!

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

Jay Daie

Your Math Friend

PRACTICE TODAY. SUCCEED TOMORROW!

This book includes 4 full-length Math practice tests and 2 online tests to help Grade 6 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:

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



2 ONLINE TESTS

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