

10 Michigan MSTEP

GRADE
6
MATH

PRACTICE TESTS

Standards-Aligned Review
Mixed Practice & Answer Key



10 PRINTED TESTS

Realistic practice to build confidence and mastery



2 ONLINE TESTS

Extra practice for continued success



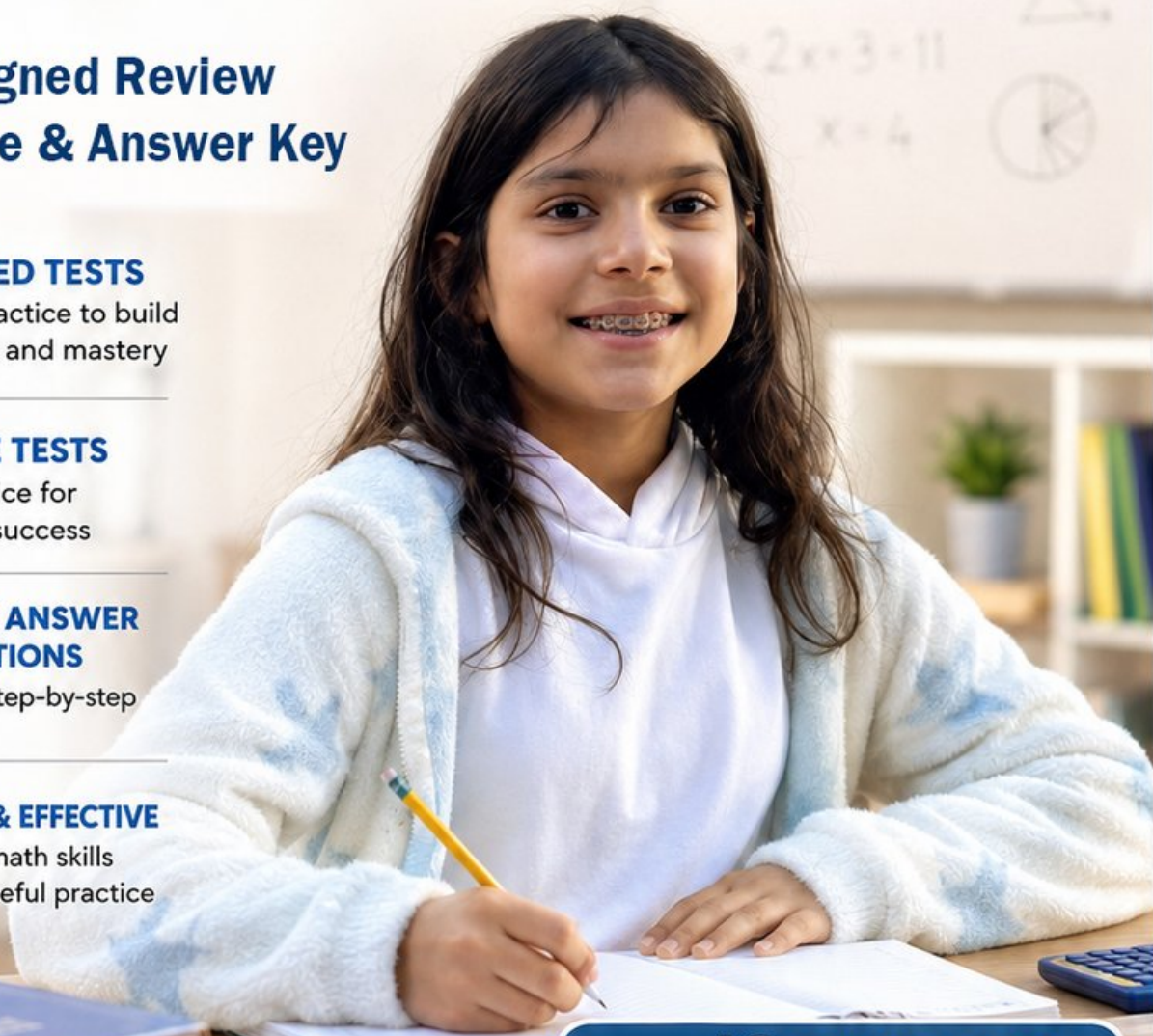
DETAILED ANSWER EXPLANATIONS

Learn with step-by-step solutions



FOCUSED & EFFECTIVE

Target key math skills with purposeful practice



10 PRINTED TESTS
+ 2 ONLINE TESTS

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

PRACTICE • REVIEW • SUCCEED

10 Michigan M-STEP Grade 6 Math Practice Tests

Standards-Aligned Fresh-Water Focus for Michigan Student Test of Educational Progress



Ten complete 40-question Grade 6 practice rounds for M-STEP, 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!

Ten steady rounds on a Great Lakes review journey

This book gives you ten full Grade 6 practice tests for M-STEP. Each round uses lake shores, forest roads, and steady classroom work 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

Check each unit the way you would check each point on a route. I will slow down for the question, circle what matters, solve one step at a time, and use mistakes as clues for getting stronger.

Read

Plan

Check

How to Use This Book

A ten-session routine for fresh-water focus

1. **Preview the skills.** Read the quick review pages before the first test.
2. **Take one test at a time.** Work in a quiet place and answer all 40 questions.
3. **Mark your confidence.** Put a small star beside problems you solved with a strong plan.
4. **Check, then retry.** For missed questions, try the problem again before reading the explanation.
5. **Track your next move.** Use the growth log to name one habit and one skill for the next test.

Michigan review rhythm: Test one day, correct carefully the next day, then return for the next round when your corrections feel clear.



What Is Inside?

Ten M-STEP tests, 400 questions, and a full review path

Part	What You Will Practice
Tests 1–3	Warm-up 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	Stamina rounds for mixed review, neat work, and flexible strategy choices.
Test 10	Final Michigan round to show growth across the whole book.
Answer Pages	Compact keys and explanations that show why each answer works.

The tests are mixed on purpose. Fresh-water focus means recognizing the skill even when the next question changes topic.



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& answers

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1) A jacket originally costs \$80. The store is offering a 25% discount. What is the sale price?

A. \$55

C. \$65

B. \$60

D. \$75

2) Which percent equals $\frac{9}{10}$?

A. 9%

C. 90%

B. 19%

D. 99%

3) Compute: $\frac{3}{5} \div \frac{1}{2}$

A. $\frac{3}{10}$

C. $1\frac{1}{6}$

B. $\frac{1}{6}$

D. $\frac{6}{5}$

4)



The dots show lavender and cyan counters. Write the ratio of lavender to total in simplest form.

A. 5 : 2

C. 2 : 5

B. 7 : 5

D. 5 : 7



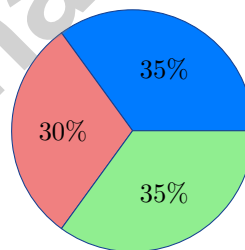
- 5) A store charges the same price per item. Three customers bought items with these totals:

Number of Items	Total Cost (\$)
3	15
7	35
10	45

Which customer paid an incorrect total if the unit price is constant?

- A. The first customer (3 items) D. All customers paid the correct amount
- B. The second customer (7 items)
- C. The third customer (10 items)
- 6) For the data set 2, 4, 6, 8, the mean is 5. Calculate the MAD.

- A. 1 C. 3
- B. 2 D. 5



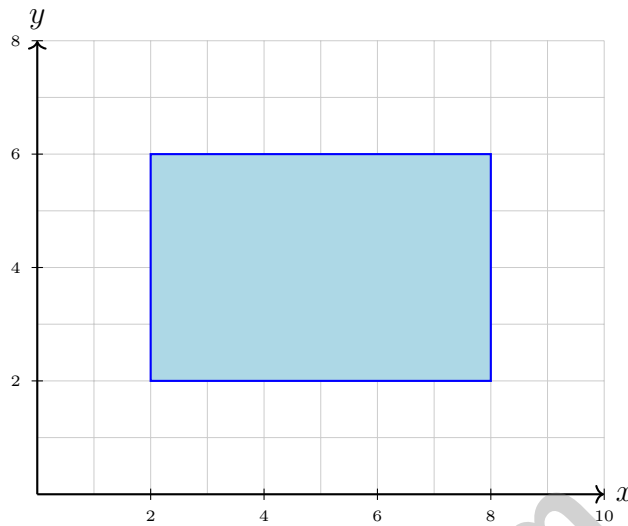
7)

The circle graph shows a total of 700 items. How many items are in the 30% section?

- A. 200 C. 180
- B. 210 D. 245



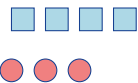
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8)

A rectangle has vertices at $(2, 2)$, $(8, 2)$, $(8, 6)$, and $(2, 6)$. What is its area in square units?

9) The diagram shows a pattern of squares and circles.

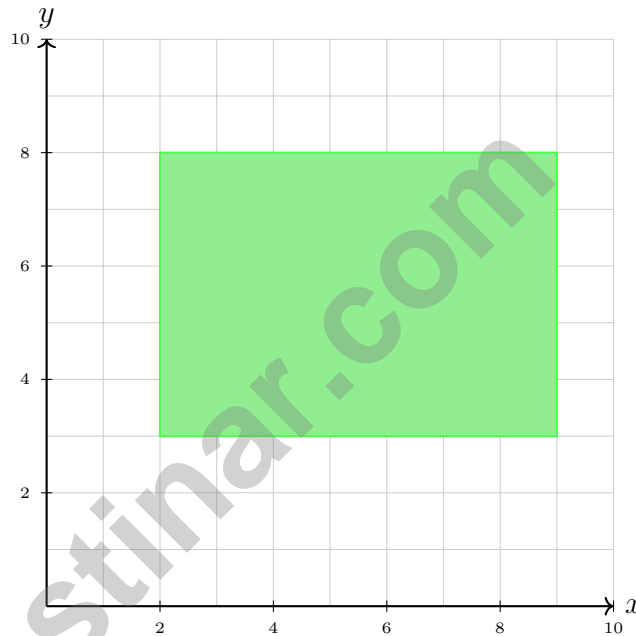


Squares to Circles

Which statement describes the ratio shown?

- | | |
|---|---|
| <p><input type="checkbox"/> A. For every 3 squares there are 4 circles.</p> <p><input type="checkbox"/> B. For every 2 squares there are 3 circles.</p> | <p><input type="checkbox"/> C. For every 3 squares there are 2 circles.</p> <p><input type="checkbox"/> D. For every 4 squares there are 3 circles.</p> |
|---|---|

- 5) A triangular prism has a triangular base with area 24 cm^2 and a perimeter of 20 cm . The prism has a height of 8 cm . What is the total surface area (in cm^2)?



6)

A rectangle has vertices at $(2, 3)$, $(9, 3)$, $(9, 8)$, and $(2, 8)$. What is its area in square units?

- A. 28 square units C. 35 square units
 B. 32 square units D. 40 square units



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	Expression	Result
1)	$(-3) \times 5$?
	$(-3) \times (-5)$?

Which row correctly matches the expressions to their results?

- A. -15 and -15
 C. 15 and -15
 B. 15 and 15
 D. -15 and 15
- 2) Three phone plans offer different rates: Plan A: 500 minutes for \$35, Plan B: 800 minutes for \$50, Plan C: 1000 minutes for \$60. Which plan has the lowest cost per minute?

Plan	Minutes	Cost (\$)	Cost per Min
A	500	35	\$0.07
B	800	50	\$0.0625
C	1000	60	\$0.06

- A. Plan A (\$0.07 per min)
 C. Plan C (\$0.06 per min)
 B. Plan B (\$0.0625 per min)
 D. Plans B and C are tied
- 3) A trail is 12 kilometers long. If a hiker walks 3 kilometers, how many meters has the hiker walked?
- A. 3,000 meters
 C. 30,000 meters
 B. 300 meters
 D. 30 meters
- 4) A swimming pool charges \$5 per person to enter. Complete the sentence: The relationship between the number of people and the total cost is proportional because...
- A. ...the cost stays \$5 no matter how many people enter
 C. ...there is a one-time starting fee
 B. ...the ratio of cost to people is constant
 D. ...the cost stays the same as more people enter



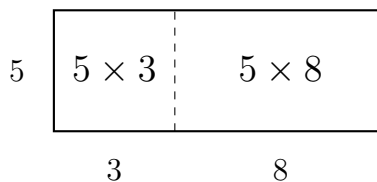
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5)

Category	Budget A	Budget B
Housing	\$900	\$700
Food	\$300	\$250
Transportation	\$200	\$200
Savings	\$100	\$100

Comparing the two budgets above, what is the difference in total monthly budgets?

- A. \$150
 - B. \$200
 - C. \$250
 - D. \$300
- 6) A receipt shows three items: \$5.25, \$12.99, and \$8.50. What is the total?
- A. \$26.74
 - B. \$25.74
 - C. \$27.00
 - D. \$18.24
- 7) Find the LCM of 7 and 11.
- A. 18
 - B. 77
 - C. 70
 - D. 88
- 8) A student tries to use the area model below to find $5(3 + 8)$ but makes an error. The student writes: $5(3 + 8) = 15 + 8 = 23$. What is the error?



- A. 5 was only distributed to the first term
- B. The sum $3 + 8$ should equal 11, not both terms
- C. $5(3 + 8)$ should simplify to 55, not 23
- D. Choices A and C are both correct



Michigan M-STEP Practice Test Answer Keys

How to use this section with a Grade 6 student:

1. check the answer first
2. mark questions to try again
3. rework the problem before reading the full explanation

A calm correction routine turns every missed item into useful practice.

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Practice Test Answers and Explanations

Practice Test 1 Answers and Explanations

- 1) **Choice B is correct.** **(6.RP.A.3)** Discount amount: 25% of $\$80 = 0.25 \times 80 = \20 . Sale price: $\$80 - \$20 = \$60$.
- 2) **Choice C is correct.** **(6.G.A.1)** $\frac{9}{10} = \frac{90}{100} = 90\%$.
- 3) **Choice D is correct.** **(6.EE.B.8)** $\frac{3}{5} \times 2 = \frac{6}{5}$.
- 4) **Choice D is correct.** **(6.SP.B.5)** Count the lavender counters first: there are 5. The total is $5 + 2 = 7$, so lavender to total is $5 : 7$.
- 5) **Choice C is correct.** **(6.SP.B.4)** The unit price from the first customer is $\$15 \div 3 = \5 per item. The second customer: $\$35 \div 7 = \5 per item ✓. The third customer should pay $10 \times 5 = \$50$, but only paid $\$45$. The third customer's total is incorrect.
- 6) **Choice B is correct.** **(6.G.A.1)** Distances: $|2 - 5| = 3$, $|4 - 5| = 1$, $|6 - 5| = 1$, $|8 - 5| = 3$. $MAD = \frac{3+1+1+3}{4} = \frac{8}{4} = 2$.
- 7) **Choice B is correct.** **(6.NS.C.7d)** 30% of 700 is $0.30 \times 700 = 210$ items.
- 8) **The correct answer is 24.** **(6.NS.C.7c)** Width: $8 - 2 = 6$ units. Height: $6 - 2 = 4$ units. Area = $6 \times 4 = 24$ square units.
- 9) **Choice D is correct.** **(6.NS.B.3)** Count the shapes carefully: there are 4 squares and 3 circles. The ratio of squares to circles is $4 : 3$.
- 10) **Choice B is correct.** **(6.EE.A.2a)** Divide distance by time: $330 \div 6 = 55$ miles per hour.
- 11) **The correct answer is (2, -4).** **(6.EE.A.2c)** Reflecting over the x -axis negates the y -coordinate. Vertex $C(2, 4) \rightarrow C'(2, -4)$.
- 12) **Choice B is correct.** **(6.RP.A.1)** Unit rate: $\$12 \div 3 = \4 per latte. For 7 lattes: $7 \times \$4 = \28 .
- 13) **Choice D is correct.** **(6.NS.B.3)** Rows 1, 2, 3 all follow $1 : 3$: $5 : 15 = 1 : 3$, $7 : 21 = 1 : 3$, $10 : 30 = 1 : 3$. Row 4: $12 : 37 \neq 1 : 3$ (would need $12 : 36$). Row 4 is incorrect.
- 14) **Choice C is correct.** **(6.NS.C.8)** $\frac{18}{40} = 0.45 = 45\%$.
- 15) **Choice B is correct.** **(6.NS.B.3)** 2 hours = 120 minutes = four 30-minute intervals. Distance: $25 \times 4 = 100$ miles.
- 16) **Choice C is correct.** **(6.EE.A.3)** Multiply: $4 \times 2 = 8$ pints.
- 17) **Choice A is correct.** **(6.SP.A.2)** The constant of proportionality is $k = \frac{\text{cost}}{\text{items}} = \frac{10}{2} = \frac{20}{4} = \frac{30}{6} = \frac{40}{8} = 5$. The cost is $\$5$ per item.
- 18) **Choice B is correct.** **(6.EE.B.6)** The ratio is $\frac{15}{100} = 0.15 = 15\%$.
- 19) **Choice C is correct.** **(6.EE.B.5)** Map A: $4 \times 5 = 20$ km. Map B: $4 \times 10 = 40$ km.
- 20) **The correct answer is All four are correct measurements.** **(6.EE.B.8)** A is correct: length is $7 - 2 = 5$ units. B is correct: width is $5 - 1 = 4$ units. C is correct: area is $5 \times 4 = 20$ square units. D is correct: perimeter is $2(5 + 4) = 18$ units. E is incorrect because the diagonal of a rectangle is not 6 units (it would be $\sqrt{5^2 + 4^2} = \sqrt{41} \approx 6.4$ units, beyond Grade 6 scope).
- 21) **Choice C is correct.** **(6.EE.C.9)** The number line shows the relationship: 0 to 4,392 on the bottom corresponds to 0 to 244 on the top. The quotient is the top label, which is 244. Verify: $18 \times 244 = 4,392$.
- 22) **Choice D is correct.** **(6.NS.B.4)** Align decimal points: $12.70 + 8.45 = 21.15$. Stack and add, carrying as needed.
- 23) **Choice A is correct.** **(6.G.A.3)** This is a GCF problem. The GCF of 30 and 45 is 15. So she can make 15 bracelets with 2 beads of one color and 3 of the other in each.
- 24) **Choice B is correct.** **(6.G.A.1)** GCF of 30 and 45 is 15. So $30 + 45 = 15(2 + 3)$. Choice A uses GCF 5, which works but is not the greatest. Choice B is correct.
- 25) **Choice D is correct.** **(6.NS.C.8)** The difference is $180 - (-250) = 180 + 250 = 430$ meters.
- 26) **Choice D is correct.** **(6.RP.A.3c)** Using midpoint formula: $\frac{-2+x}{2} = -0.5 \Rightarrow -2 + x = -1 \Rightarrow x = 1$.
- 27) **Choice A is correct.** **(6.SP.A.2)** Point M is at $(-4, 3)$ and M' is at $(-4, -3)$. They have the same x -coordinate but opposite y -coordinates, indicating reflection across the x -axis.
- 28) **Choice D is correct.** **(6.SP.B.5c)** From greatest to least: positive values first ($1.2 > 0.5$), then zero, then negative values ($-1.2 > -1.5$).



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Hi, Math Champion!

◇ You trained hard! 10 full practice tests is real practice. Your math game is way better now than when you started. ◇

★ **Coach's truth:** kids who practice get better. You practiced. You got better. That's how it works!
★

Your Game Stats

- **Energy:** HIGH! You can finish a long test.
- **Smart Plays:** You know lots of strategies.
- **Calm Head:** You stay cool with hard problems.
- **Game-Day Ready:** You feel strong and prepared.

Coach's tip: the night before the test, get good sleep. Eat a good breakfast. Bring a sharp pencil. Trust your training!

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

Jay Daie

Your Math Coach

PRACTICE MORE. ACHIEVE MORE. SUCCEED!

This **Grade 6 Math Practice Tests** book is designed to help students build strong math skills, deepen their understanding of key concepts, and gain the confidence they need to succeed on any test.

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- ✓ Expressions & Equations
- ✓ Geometry
- ✓ Fractions & Decimals
- ✓ Percents
- ✓ Statistics & Probability
- ✓ Data Analysis
- ✓ Measurement & Conversions
- ✓ And More!



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