

8

FULL-LENGTH

Michigan

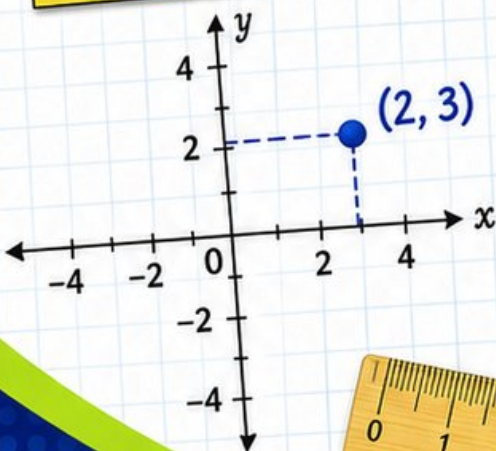
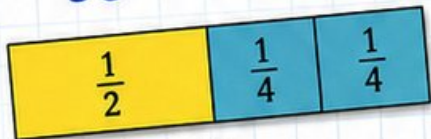
M STEP

GRADE 5

MATH PRACTICE TESTS

Mixed Practice Questions with Answer Key
for Students, Parents, and Teachers

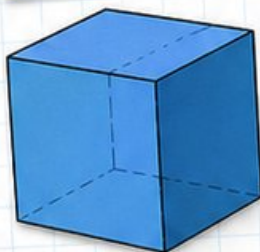
$$36 \div 4 = 9$$



$$2.4 \times 7 = 16.8$$

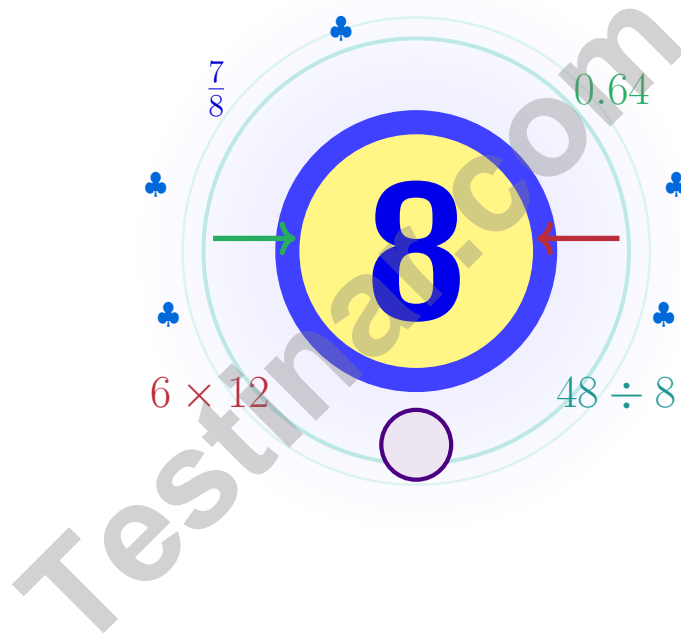
$$7 \times (12 - 5) = 49$$

1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50
51	52	53	54	55	56	57	58	59	60
61	62	63	64	65	66	67	68	69	70
71	72	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	90
91	92	93	94	95	96	97	98	99	100



8 Michigan M-STEP Grade 5 Math Practice Tests

Eight full tests and a coach's voice on every page



Eight full tests, a focused quick review, and helpful support that turns Grade 5 practice in The Great Lakes State into steady, confident growth from page one to the final check.

Jay Daie and Reza Nazari



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Eight-Step Math Adventure, Michigan

Seven chances to grow your math mind one careful step at a time

Michigan Grade 5: This Trail Is for You

This practice book is your steady companion for eight tests, not a place to be perfect. Math thinking is a lot like Lake Michigan – wide, deep, calm on top, and full of careful currents underneath.

Use these eight tests like stepping-stones. Take one test at a time, check your answers honestly, and notice which skills need more attention. Small improvements add up across seven rounds.

Notice

Look closely at what the problem says, shows, and asks.

Try

Pick a plan and step through it carefully.

Grow

Use every correction as a clue for what to master next.

A strong habit for Michigan mathematicians: read carefully, estimate when it helps, show your steps, and keep going even when a question feels tricky. That is how steady math confidence is built.

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Seven Steps, One Routine

A simple routine that turns practice into progress

Step 1: Step 1

Warm up with a quick review.

Spend a few minutes waking up your memory before the test begins.

Step 2: Step 2

Take one full practice test.

Work in a calm spot and focus on careful thinking before speed.

Step 3: Step 3

Check your work honestly.

Circle missed questions and notice which topics keep showing up.

Step 4: Step 4

Fix, reflect, and try again.

Read the explanation, repair the work, and bring that lesson into the next test.

A Good 8-Week Michigan Rhythm

Week 1	Take Test 1 and read your lake's surface.
Week 2	Take Test 2 and slow down on word problems.
Week 3	Take Test 3 and lift fraction and decimal work.
Week 4	Take Test 4 and pay close attention to labels and units.
Week 5	Take Test 5 and compare your habits with your first test.
Week 6	Take Test 6 and practice staying calm during tricky questions.
Week 7	Take Test 7 with calm crossings and careful checks.
Week 8	Take Test 8 and finish the journey with calm, careful, confident work.



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Grade 5 Mathematics Reference Materials

PERIMETER AND AREA

Perimeter of Rectangle	$P = 2l + 2w$ or $P = 2(l + w)$
Area of Rectangle	$A = l \times w$
Area of Triangle	$A = \frac{1}{2} \times b \times h$
Volume of Rectangular Prism	$V = l \times w \times h$

LENGTH

Customary	Metric
1 foot (ft) = 12 inches (in.)	1 meter (m) = 100 centimeters (cm)
1 yard (yd) = 3 feet (ft)	1 centimeter (cm) = 10 millimeters (mm)
1 yard (yd) = 36 inches (in.)	1 kilometer (km) = 1,000 meters (m)

CAPACITY

Customary	Metric
1 cup (c) = 8 fluid ounces (fl oz)	1 liter (L) = 1,000 milliliters (mL)
1 pint (pt) = 2 cups (c)	
1 quart (qt) = 2 pints (pt)	
1 gallon (gal) = 4 quarts (qt)	

WEIGHT AND MASS

Customary	Metric
1 pound (lb) = 16 ounces (oz)	1 kilogram (kg) = 1,000 grams (g)
	1 gram (g) = 1,000 milligrams (mg)

TIME

1 minute (min) = 60 seconds (sec)	1 week = 7 days
1 hour (hr) = 60 minutes (min)	1 year = 12 months
1 day = 24 hours (hr)	1 year = 52 weeks



1) Evaluate:

$$5 \times [(4 + 3) \times (4 + 3)] \div 7 + 2$$

A. 35

B. 45

C. 39

D. 37

2) Subtract: $\frac{4}{9} - \frac{1}{6}$

A. $\frac{5}{18}$

B. $\frac{3}{3}$

C. $\frac{3}{15}$

D. $\frac{1}{3}$

3) A field trip bus travels 45 kilometers in the morning and 38 kilometers in the afternoon.
How many meters did the bus travel in total?

Total: ? meters

Morning	Afternoon
45 km	38 km

A. 83 meters

B. 830 meters

C. 83,000 meters

D. 830,000 meters

4) Estimate $\frac{1}{10} + \frac{5}{6}$ using 0, $\frac{1}{2}$, and 1 benchmarks.

Record your answer in the space provided.



- 5) Four athletes' sprint times (in seconds) are shown. Who ran the fastest (shortest time)?

Athlete	Time (seconds)
Alex	12.45
Jordan	12.54
Casey	12.35
Morgan	12.40

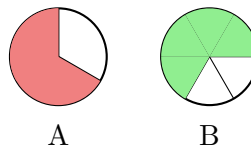
- A. Alex
 B. Jordan
 C. Casey
 D. Morgan
- 6) A triangle has side lengths 6 cm, 6 cm, and 6 cm. Which classification describes the triangle based on its sides?

- A. Equilateral
 B. Isosceles only
 C. Scalene
 D. Right

- 7) Pattern 1, 10, 100, 1,000, ... is:

- A. Powers of 10
 B. Multiples of 10
 C. Odd numbers
 D. Doubling

- 8) Use fraction circles. Which statement correctly describes the two pictures?



- A. Only Picture A shows $\frac{2}{3}$.
 B. Only Picture B shows $\frac{2}{3}$.
 C. Both show the same amount
 D. Neither



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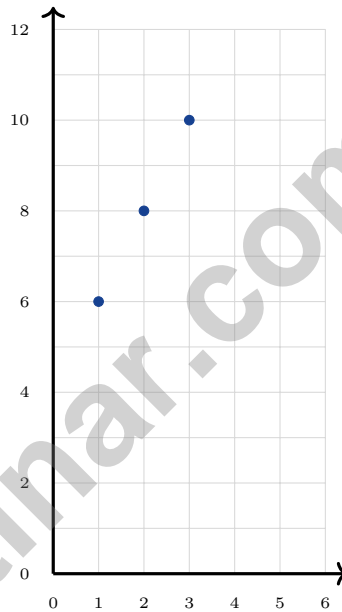
1 day = 24 hours (hr) 1 year = 52 weeks



1) A construction graph records bricks. The x-axis shows hours, and the y-axis shows bricks laid. What does the point (10, 200) mean?

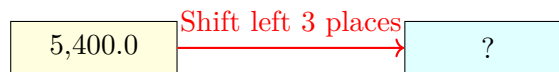
- A. hours is 200 when bricks laid is 10
- B. hours and bricks laid are both 210
- C. bricks laid is 10 when hours is 200
- D. bricks laid is 200 when hours is 10

2) A pattern has points (1, 6), (2, 8), and (3, 10). If the pattern continues, what is the y -value when $x = 4$?



- A. 10
- B. 11
- C. 12
- D. 14

3) Use the decimal shift diagram to find $5,400 \div 1,000$:



What is $5,400 \div 1,000$?

- A. 5.4
- B. 54
- C. 540
- D. 54,000



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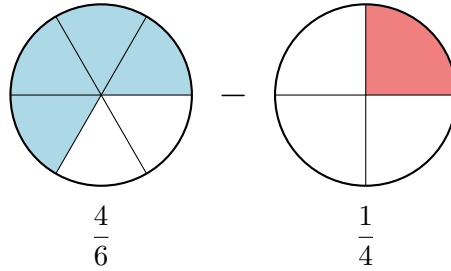
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- 1) Two same-size circles are shown. The first circle has $\frac{4}{6}$ shaded blue, and the second circle has $\frac{1}{4}$ shaded red. What is $\frac{4}{6} - \frac{1}{4}$?



- A. $\frac{3}{2}$
 B. $\frac{5}{12}$

- C. $\frac{8}{24}$
 D. $\frac{3}{10}$

- 2) Multiply: $1\frac{3}{5} \times 2\frac{1}{2}$

	1	$\frac{3}{5}$
2	1×2	$\frac{3}{5} \times 2$
$\frac{1}{2}$	$1 \times \frac{1}{2}$	$\frac{3}{5} \times \frac{1}{2}$
	$1\frac{3}{5} \times 2\frac{1}{2}$	

- A. 4
 B. $3\frac{3}{4}$
- C. $3\frac{3}{10}$
 D. $4\frac{1}{10}$
- 3) One tenth of a poster is shared equally by 2 students. Which division equation finds each share?

- A. $\frac{1}{10} \div 2 = n$
 B. $2 \div \frac{1}{10} = n$

- C. $\frac{1}{10} \times 2 = n$
 D. $2 + \frac{1}{10} = n$



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1) Rewrite $\frac{1}{3}$ and $\frac{1}{4}$ with a common denominator of 12.


$$\frac{1}{3} = \frac{?}{12}$$


$$\frac{1}{4} = \frac{?}{12}$$

- A. $\frac{4}{12}$ and $\frac{3}{12}$
- B. $\frac{3}{12}$ and $\frac{4}{12}$
- C. $\frac{2}{12}$ and $\frac{5}{12}$
- D. $\frac{6}{12}$ and $\frac{3}{12}$
- 2) A bookstore packs 6 pounds of bookmarks into bundles. Each bundle uses $\frac{1}{3}$ pound of bookmarks. How many bundles can be made?
- A. 12 bundles
- B. 24 bundles
- C. 36 bundles
- D. 18 bundles



Practice Test Answer Keys

How to use this section:

1. check your answer
2. circle missed questions
3. rework them before reading the explanation

Good correction habits build strong scores.

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Practice Test Answers and Explanations

Practice Test 1 Answers and Explanations

- Choice D is correct.** (5.OA.A.1) Each $(4 + 3)$ equals 7, so $(4 + 3) \times (4 + 3) = 49$. Then $5 \times 49 = 245$, $245 \div 7 = 35$, and $35 + 2 = 37$.
- Choice A is correct.** (5.NF.A.2) LCD = 18. $\frac{4}{9} = \frac{8}{18}$; $\frac{1}{6} = \frac{3}{18}$. $\frac{8}{18} - \frac{3}{18} = \frac{5}{18}$.
- Choice C is correct.** (5.MD.A.1) Total distance: $45 + 38 = 83$ kilometers. Convert to meters: $83 \text{ km} \times 1,000 = 83,000$ meters.
- The correct answer is about 1.** (5.NF.A.2) $\frac{1}{10} \approx 0$ and $\frac{5}{6} \approx 1$, so the benchmark estimate is about 1. For scoring, accept 1, about 1, 0.9, $\frac{9}{10}$, or the exact sum $\frac{14}{15}$.
- Choice C is correct.** (5.NF.A.2) The fastest time is the smallest: $12.35 < 12.40 < 12.45 < 12.54$. Casey's time of 12.35 seconds is fastest.
- Choice A is correct.** (5.G.B.4) A triangle with three equal side lengths is equilateral.
- Choice A is correct.** (5.OA.B.3) Each term is made by multiplying the previous term by 10: 1, 10, 100, 1,000, ...
- Choice C is correct.** (5.OA.B.3) Picture A shows $\frac{2}{3}$ (two thirds). Picture B shows $\frac{4}{6}$ (four sixths). Since $\frac{2}{3} = \frac{4}{6}$, both pictures represent the same amount.
- Choice C is correct.** (5.MD.B.2) Use the values shorter than 1 yard: two $\frac{1}{4}$ -yard strips, three $\frac{1}{2}$ -yard strips, and one $\frac{3}{4}$ -yard strip. The total is $\frac{2}{4} + \frac{3}{2} + \frac{3}{4} = \frac{11}{4} = 2\frac{3}{4}$ yards.
- Choice D is correct.** (5.NBT.B.7) Add: $2.56 + 1.68 = 4.24$; then $4.24 + 3.14 = 7.38$.
- Choice B is correct.** (5.NBT.B.7) $\frac{1}{4}$ foot = $\frac{1}{4} \times 12 = 3$ inches.
- The correct answer is 39.2.** (5.MD.C.5) Choose the operation from the story, then keep the unit with the answer. $5.6 \times 7 = 39.2$ km. This confirms the answer.
- Choice A is correct.** (5.MD.C.5) Use the zeros to reason backward: 400 has two zeros, and the product has four trailing zeros. 900×400 gives 36 with four zeros, or 360,000.
- Choice D is correct.** (5.NBT.B.7) Line up decimal points and subtract place by place. $12.50 - 8.75 = 3.75$ miles. This confirms the answer.
- Choice A is correct.** (5.MD.C.4) Each layer has 12 cubes. Three layers of the same size give $12 \times 3 = 36$ unit cubes total.
- Choice B is correct.** (5.NBT.A.3a) 76 out of 100 squares shaded represents $\frac{76}{100} = 0.76$.
- Choice A is correct.** (5.NF.B.4) For 3 pans, use 3 copies of $\frac{1}{3}$ cup. $3 \times \frac{1}{3} = \frac{3}{3} = 1$, so the recipe needs 1 cup of sugar.
- Choice B is correct.** (5.MD.C.5c) Find each part first: Prism A is $5 \times 4 \times 5 = 100$ cubic inches, and Prism B is $6 \times 4 \times 3 = 72$ cubic inches. Because the parts do not overlap, add them: $100 + 72 = 172$ cubic inches.
- The correct answer is 42000000.** (5.NBT.A.2) Multiplying by a power of 10 shifts the value to a larger place. Attach six zeros to 42: 42,000,000. This confirms the answer.
- Choices A, B are correct.** (5.NBT.A.2) Multiply the base area by the height: $15 \cdot 4 = 60$, so the volume is 60 cubic centimeters. C adds instead of multiplying, and D is false because the prism's volume stays the same no matter which face you call the base.
- Choice C is correct.** (5.NF.B.5a) $6 \times \frac{3}{2} = 9$. Since $\frac{3}{2} > 1$, the product is farther from zero than the starting value.
- Choice B is correct.** (5.G.A.2) When the input is 4, Rule A gives $2 \times 4 = 8$ and Rule B gives $4 \times 4 = 16$, so the ordered pairs are (4, 8) and (4, 16).
- Choice B is correct.** (5.NBT.A.4) The hundredths place is 7. The thousandths place is 8. Since $8 \geq 5$, round up from 7 to 8. So 5.678 rounds to 5.68.
- Choice A is correct.** (5.NBT.A.4) $\frac{3}{5} \times \frac{5}{6} = \frac{15}{30}$, which simplifies to $\frac{1}{2}$.
- Choice C is correct.** (5.NF.B.5b) Use the rectangular-prism volume formula: $11 \times 5 \times 6 = 330$. So the volume is 330 cubic feet.
- Choice C is correct.** (5.NF.B.6) $\frac{3}{5} \times 25 = \frac{3 \times 25}{5} = \frac{75}{5} = 15$, so 15 students brought lunch from home.
- Choice A is correct.** (5.NBT.B.6) Start with first two digits: $81 \div 34 \approx 2$. Check: $34 \times 2 = 68$, and $81 - 68 = 13$. This is correct.



Captain's Log—Voyage Complete

First Mate, Well Done!

◇ You sailed through 8 practice tests with steady hands and a sharp eye. The waters got rough sometimes, but you kept your course. That's what good sailors do. Now the harbor (test day) is in sight, and you are ready to dock with confidence. ◇

★ **Captain's wisdom:** a good sailor doesn't fight the wind—they read it and adjust. On a test, the same thing is true. When a problem feels tricky, don't panic. Read it again. Try a new strategy. Adjust the sails of your thinking. ★

Captain's Skills Inventory

- **Steady Steering:** EXCELLENT! You stay on course even when problems get tough.
- **Wind Reading:** STRONG! You can spot what a problem is really asking.
- **Crew Spirit:** HIGH! You believe in your own ability.
- **Harbor Approach:** READY! You know how to finish a test calmly.

Final captain's note: the best voyages combine planning with courage. You have both. Trust the chart you built through these 8 tests. Trust your hands on the wheel. Then sail confidently into test day.

If you'd like to share your experience or have questions, please email me at reza@testinar.com. I'd love to hear from you!

Reza Nazari & Jay Daie

Your Math Captain (Smooth Sailing Ahead)

$45 \div 5 = ?$

PRACTICE TODAY.

$\frac{3}{5} + \frac{1}{10} = ?$



ACHIEVE TOMORROW!



$3^2 + 4^2 = 25$

This book includes **8** full-length **Grade 5** math practice tests to help students master essential skills, build confidence, and achieve success. Each test is carefully designed to reflect real math standards and cover a variety of question types with detailed answer explanations.

$7x - 4 = 17$

$1\frac{1}{2} + 2\frac{1}{3} = ?$

8 FULL-LENGTH MATH PRACTICE TESTS



REALISTIC PRACTICE

Tests mirror Grade 5 math standards and real assessment formats.



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Detailed answer explanations help students understand and learn.



BUILD CONFIDENCE & SKILLS

Strengthens problem-solving abilities and reinforces key math concepts.



IMPROVE & TRACK PROGRESS

Identify strengths and focus on areas that need improvement.



ACHIEVE SUCCESS

Boosts test readiness and helps students achieve their best results.

COVERS ALL KEY GRADE 5 MATH TOPICS

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- ✓ Fractions & Decimals
- ✓ Algebraic Thinking
- ✓ Geometry
- ✓ Measurement & Data
- ✓ Number Patterns
- ✓ Word Problems
- ✓ Ratio & Proportion
- ✓ Perimeter, Area & Volume
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...and More!



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