

7

Michigan

M STEP

GRADE 5

MATHEMATICS

PRACTICE TESTS

✓
PRACTICE
PREPARE
SUCCEED

★★★

Comprehensive Standards-Aligned
Review for Strong Grade 5
Math Performance



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

$$2.4 + 1.6 = 4.0$$

$$A = \frac{bh}{2}$$



**7 FULL-LENGTH
PRACTICE TESTS**

Realistic style
questions



**STANDARDS-
ALIGNED**

Covers all Grade 5
standards



BUILD CONFIDENCE

Target weak areas
and improve
performance



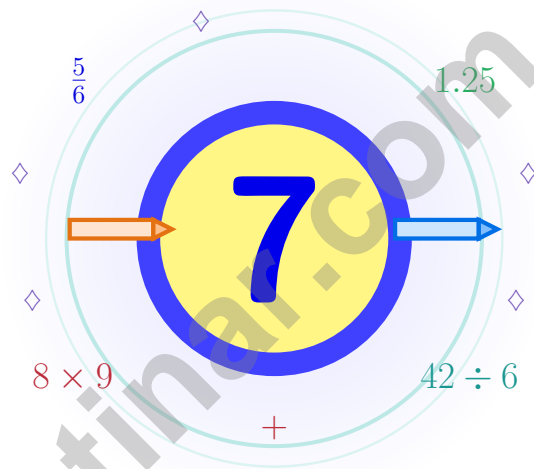
ACHIEVE SUCCESS

Develop skills,
stay prepared,
excel on test day

★ PRACTICE TODAY. PERFORM TOMORROW. **SUCCEED** FOREVER. ★

7 Michigan M-STEP Grade 5 Math Practice Tests

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



Seven full tests, a concise 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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Michigan Math Crew, Welcome to the Path

Seven steps, seven growth checks, one calm routine

To the Grade 5 Mathematician

This practice book is your steady companion for seven 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 seven 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.

Read

Read every word twice and underline what is asked.

Solve

Choose the cleanest method and show your steps.

Reflect

Look back to find what worked and what to fix.

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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Scan me



How to Get the Most Out

A simple routine that turns practice into progress

Step 1: Power Up

Sharpen your math brain with the quick review.

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

Step 2: Trail Run

Take a full practice test in a quiet spot.

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

Step 3: Debrief

Score honestly and circle missed questions.

Circle missed questions and notice which topics keep showing up.

Step 4: Repair

Fix the missed work and lock the lesson in.

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

A Good 7-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.



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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

1 foot (ft) = 12 inches (in.)

1 yard (yd) = 3 feet (ft)

1 yard (yd) = 36 inches (in.)

Metric

1 meter (m) = 100 centimeters (cm)

1 centimeter (cm) = 10 millimeters (mm)

1 kilometer (km) = 1,000 meters (m)

CAPACITY

Customary

1 cup (c) = 8 fluid ounces (fl oz)

1 pint (pt) = 2 cups (c)

1 quart (qt) = 2 pints (pt)

1 gallon (gal) = 4 quarts (qt)

Metric

1 liter (L) = 1,000 milliliters (mL)

WEIGHT AND MASS

Customary

1 pound (lb) = 16 ounces (oz)

Metric

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) A rope is multiplied by $\frac{3}{4}$. Without calculating the exact length, is the new length greater than, less than, or equal to the original?

A. Greater than original

C. Equal to original

B. Less than original

D. Cannot determine

2) Use $V = B \times h$ where B is the base area. If $B = 20 \text{ cm}^2$ and $h = 8 \text{ cm}$, find V .

Record your answer in the space provided.

3) Compare without calculating: 3×25 3×27

A. >

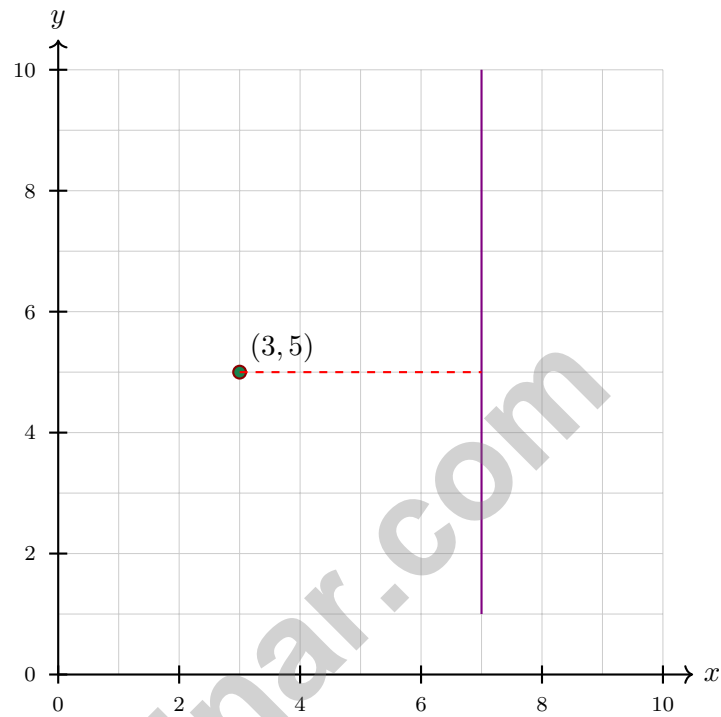
C. =

B. <

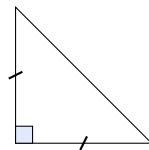
D. Cannot tell



- 4) Two points lie on the same vertical line: $(7, 1)$ and $(7, 10)$. If a third point $(3, 5)$ is plotted, how far is it horizontally from the vertical line?



- A. 2 units
- B. 3 units
- C. 4 units
- D. 5 units
- 5) Which name describes a triangle with two equal sides and one right angle?



- A. Isosceles acute
- B. Right isosceles
- C. Scalene obtuse
- D. Equilateral



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1) Write 0.8 as a fraction.

- A. $\frac{8}{100}$
 B. $\frac{8}{1000}$

- C. $\frac{80}{10}$
 D. $\frac{8}{10}$

2) A student claims $\frac{3}{5} = \frac{3}{10}$ by adding 5 to the denominator. What mistake did they make?

- A. They should multiply both numerator and denominator by the same number
 B. They added to the denominator but forgot to add to the numerator
 C. The fractions are actually equivalent
 D. They should have subtracted instead

3) Evaluate: $100 - 4 \times 5 + 2$

- A. 82
 B. 78

- C. 98
 D. 480

4) Base area 32 in^2 , height 9 in. Volume =?

- A. 288 in^3
 B. 256 in^3

- C. 41 in^3
 D. 23 in^3

5) Simplify: $2 \times \frac{3}{8}$

- A. $\frac{3}{16}$
 B. $\frac{7}{8}$

- C. $\frac{3}{4}$
 D. $\frac{5}{8}$



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1) A shop sold items for \$7.45, \$2.68, and \$3.82. What was the total revenue?

- A. \$13.85
- B. \$13.95
- C. \$14.05
- D. \$14.95

2) How many ounces are in 45 pounds?

- A. 360 ounces
- B. 540 ounces
- C. 720 ounces
- D. 900 ounces

3) Two identical boxes are stacked on top of each other. Each box is 8 in. × 5 in. × 3 in.. If stacked end-to-end (height-wise), what is the combined volume?

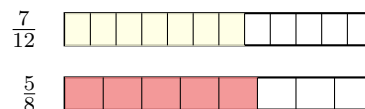


- A. 120 cubic inches
- B. 480 cubic inches
- C. 360 cubic inches
- D. 240 cubic inches

4) An ice cream shop sells popsicles. There are 47 boxes with 12 popsicles in each box. How many popsicles are there?

- A. 556
- B. 564
- C. 570
- D. 582

5) Two ribbon lengths are $\frac{7}{12}$ meter and $\frac{5}{8}$ meter. To determine which is longer, find a common denominator and compare.



- A. $\frac{7}{12}$ is longer
- B. Cannot compare
- C. They are equal
- D. $\frac{5}{8}$ is longer



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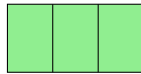
1 day = 24 hours (hr) 1 year = 52 weeks



1) If a rectangular prism's length is doubled and all other dimensions stay the same, how does the volume change?

- A. The volume stays the same C. The volume triples
 B. The volume halves D. The volume doubles

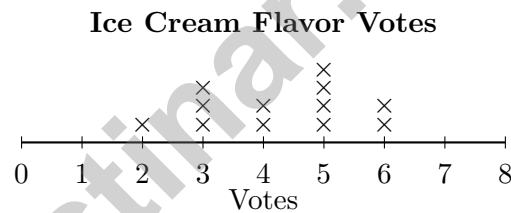
2) The model shows $\frac{1}{5}$ divided into 3 equal parts. What is the value of each part?



A bar marked $\frac{1}{5}$ split into 3 equal parts

- A. $\frac{1}{15}$ C. $\frac{3}{5}$
 B. $\frac{1}{8}$ D. $\frac{1}{2}$

3) The line plot displays favorite ice cream flavors (number of votes):



Which vote count appears most often?

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

4) Evaluate the expression: $48 \div (6 + 2) + 5 \times 3$

Record your answer in the space provided.



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 B is correct.** (5.NF.B.5a) Multiplying by a factor less than 1 makes a positive quantity smaller. Since $\frac{3}{4} < 1$, the new length is less than the original.
- The correct answer is 160.** (5.MD.C.5a) The base area is 20 cm^2 , and there are 8 cm of height. Multiply $20 \times 8 = 160 \text{ cm}^3$.
- Choice B is correct.** (5.OA.A.2) Both expressions have the same factor, 3. Since 25 is less than 27, 3 groups of 25 are less than 3 groups of 27.
- Choice C is correct.** (5.G.A.2) The vertical line is at $x = 7$. The point (3, 5) is at $x = 3$. The horizontal distance is $7 - 3 = 4$ units.
- Choice B is correct.** (5.G.B.4) The diagram shows a right angle (small square) and two equal sides (tick marks), making it a right isosceles triangle.
- Choice D is correct.** (5.MD.A.1) 1 meter = 100 centimeters. So $5 \times 100 = 500 \text{ cm}$.
- The correct answer is (4, 5).** (5.G.A.1) Right shifts x by +4; up shifts y by +5. Accept equivalent coordinate-pair formatting such as (4, 5), (4, 5), 4, 5, or a written form such as $x = 4$, $y = 5$.
- Choice B is correct.** (5.NBT.B.7) Estimate: $2.89 \approx 3$ and $3.15 \approx 3$, so $3 + 3 = 6$. Exact: $2.89 + 3.15 = 6.04$ (hundredths: $9 + 5 = 14$, regroup; tenths: $8 + 1 + 1 = 10$, regroup; ones: $2 + 3 + 1 = 6$).
- The correct answer is $\frac{2}{3}$.** (5.NF.A.2) Reduce each fraction by dividing the numerator and denominator by the same number. $\frac{6}{9}$ and $\frac{8}{12}$ both simplify to $\frac{2}{3}$.
- The correct answer is 24.** (5.NF.B.7c) Each cup contains 4 fourth-cup scoops, so 6 cups contain $6 \times 4 = 24$ scoops.
- Choice A is correct.** (5.NBT.B.7) On a 10×10 hundredths grid, shading 7 columns (width) and 8 rows (height) gives $7 \times 8 = 56$ shaded squares, representing 0.56 or 56%.
- Choice C is correct.** (5.MD.A.1) First cyclist's total: $15.5 + 8.25 = 23.75 \text{ km}$. Second cyclist's total: $9.75 + 12 = 21.75 \text{ km}$. The first cyclist traveled $23.75 - 21.75 = 2 \text{ km}$ farther.
- Choice C is correct.** (5.NBT.A.2) Multiplying by 1,000 moves the decimal three places right: $1.2 \rightarrow 12 \rightarrow 120 \rightarrow 1,200$.
- Choice C is correct.** (5.MD.C.5a) Volume = $12 \times 8 \times 6 = 96 \times 6 = 576 \text{ in}^3$.
- Choice A is correct.** (5.NBT.B.6) $1,232 \div 16 = 77$ pounds per animal. Check: $16 \times 77 = 1,232$.
- Choice C is correct.** (5.NBT.A.2) Dividing by 10: $74.5 \div 10 = 7.45$ pounds per bag.
- Choice D is correct.** (5.OA.B.3) At step 4, $W = 12$ and $X = 4$. The sum is $12 + 4 = 16$.
- Choice D is correct.** (5.NF.A.1) Same denominator: subtract whole numbers $5 - 2 = 3$ and fractions $\frac{3}{8} - \frac{1}{8} = \frac{2}{8}$. Answer: $3\frac{2}{8}$.
- Choices A, B are correct.** (5.MD.A.1) C is not true because 1 gallon is 16 cups. D is not true because 1 mile is 5,280 feet.
- Choice C is correct.** (5.NF.B.7c) $10 \div \frac{1}{5} = 10 \times 5 = 50$.
- Choice D is correct.** (5.NBT.B.5) Round 26 up to 30 (since $6 \geq 5$) and 37 up to 40 (since $7 \geq 5$). Then $30 \times 40 = 1,200$.
- Choice B is correct.** (5.OA.B.3) Week 1: 5 plants. Add 3 each week. Week 8: $5 + 7(3) = 5 + 21 = 26$ plants.
- Choice A is correct.** (5.NF.B.6) Area = $\frac{7}{8} \times \frac{3}{5} = \frac{21}{40} \text{ m}^2$.
- Choice C is correct.** (5.NBT.A.2) $31 \times 100 = 3,100$. Append two zeros to 31.
- Choice C is correct.** (5.MD.B.2) Count X marks at $\frac{1}{2}$ and $\frac{5}{8}$. That is $3 + 1 = 4$ frogs.
- Choice B is correct.** (5.NBT.B.7) Subtract the cost from the starting amount: $25.00 - 10.75 = 14.25$ dollars.
- Choice A is correct.** (5.NBT.A.3a) $8 + 2 \times \frac{1}{10} + 9 \times \frac{1}{100} = 8 + 0.2 + 0.09 = 8.29$.
- Choice B is correct.** (5.MD.C.5) The base area is $20 \times 4 = 80$ square centimeters. Since $400 \div 80 = 5$, the height is 5 cm.
- Choice A is correct.** (5.NF.A.2) $\frac{1}{3} = \frac{4}{12}$, $\frac{7}{12} - \frac{4}{12} = \frac{3}{12} = \frac{1}{4}$.
- Choice D is correct.** (5.NF.A.2) $\frac{4}{7} \approx \frac{1}{2}$, $\frac{9}{10}$ is close to 1, $\frac{1}{11} \approx 0$, and $\frac{8}{9} \approx 1$. All fit their benchmarks.



Check Your Work

Dear Student,

★ Seven tests gave you a powerful habit: checking. Checking turns good work into great work. It helps you catch small errors before they cost points. ★

◇ **Great test-takers check smartly:** they don't redo everything—they do quick checks that catch the most common mistakes. ◇

Quick Check Ideas

- **Estimate:** should the answer be about this size?
- **Opposite operation:** add to check subtraction; multiply to check division.
- **Units:** does the unit match the question?
- **Reread:** did you answer what was asked?

You practiced **checking** across seven tests—use it to earn points on test day.

Email me at reza@testinar.com.

Reza Nazari & Jay Daie

Your Math Coaches (Check Smart)

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PRACTICE TODAY. PERFORM TOMORROW.

Success in math starts with practice! This book provides the **practice, confidence, and skills** your child needs to excel on the Grade 5 Math test and beyond.

KEY BENEFITS:



TARGETED PRACTICE

Focus on the most important Grade 5 math skills.



STANDARD-ALIGNED

All tests align with state standards for Grade 5.



BUILD CONFIDENCE

Strengthen skills, reduce test anxiety, and boost confidence.



IMPROVE PERFORMANCE

Timed practice helps improve speed and accuracy.



ACHIEVE SUCCESS

Develop strong test-taking skills and achieve your best score!

PERFECT FOR:

✓ Classroom Practice

✓ Homework Help

✓ Test Preparation

✓ Summer Learning

✓ On-the-Go Practice

✓
PRACTICE
PREPARE
SUCCEED
★★★

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Give your child the tools they need to succeed in math and in life!



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