

10 COMPLETE

Michigan

M STEP

GRADE 5

MATH

PRACTICE TESTS

Standards-Based Review with
Mixed Practice and Detailed Answer Key



10 Complete Practice Tests

Build confidence and test readiness



Standards-Based Review

Covers key Grade 5 math standards



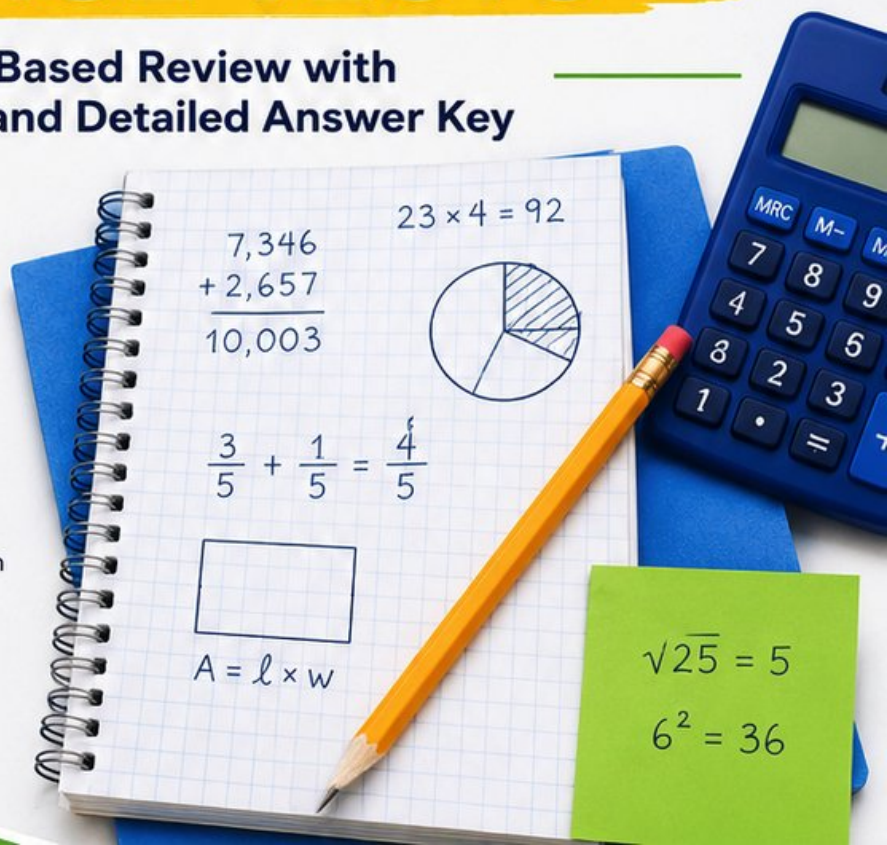
Mixed Practice

Variety of question types to strengthen skills



Detailed Answer Key

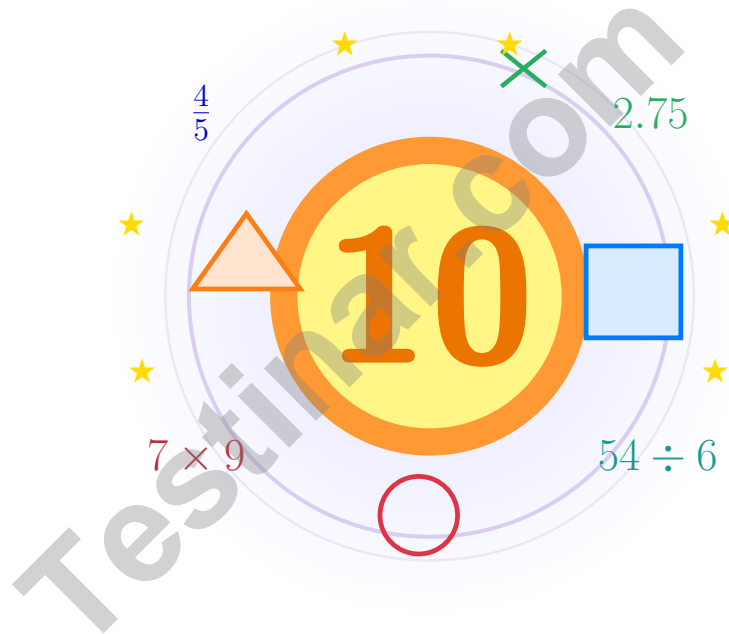
Step-by-step explanations for every question



**PREPARE.
PRACTICE.
SUCCEED!**

10 Michigan M-STEP Grade 5 Math Practice Tests

Bright review, thoughtful practice, and steady confidence for Grade 5



Ten full tests, a focused quick review, and student-friendly support that keeps practice clear and encouraging.

Jay Daie and Reza Nazari



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Welcome!

This book is a place to practice bravely and think clearly

Dear Grade 5 Mathematician

This book gives you ten chances to read carefully, solve thoughtfully, and build steady math confidence. Some problems will feel friendly right away. Some will take more patience. Both kinds help you grow.

The goal is not to feel perfect before you begin. The goal is to practice honest effort, learn from corrections, and notice how much stronger your thinking becomes over time.

Read

Slow down and understand the task.

Solve

Show clear steps and good choices.

Learn

Use mistakes as clues for what comes next.

A strong habit from the start: keep your work neat, estimate when it helps, write units carefully, and do not let one hard problem decide your mood for the whole page.



How to Use This Book

A simple routine that turns practice into real progress

Step 1

Warm up with the quick review.

Spend a few minutes refreshing the ideas before the test begins.

Step 2

Take one full practice test.

Work in a calm spot and aim for careful thinking before speed.

Step 3

Check your work honestly.

Circle missed questions and notice which skills need another look.

Step 4

Fix and reflect.

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



A Good 10-Week Rhythm

Week 1	Take Test 1 and notice your starting strengths.
Week 2	Take Test 2 and slow down on word problems.
Week 3	Take Test 3 and sharpen multiplication and division checks.
Week 4	Take Test 4 and focus on fractions and decimals.
Week 5	Take Test 5 and watch your labels and units closely.
Week 6	Take Test 6 and practice calmer pacing.
Week 7	Take Test 7 and compare your habits with the earlier weeks.
Week 8	Take Test 8 and focus on tidy, checkable work.
Week 9	Take Test 9 and compare your progress with the way you worked in the earlier weeks.
Week 10	Take Test 10 and finish with steady, confident effort while using every strong habit you built.



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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)

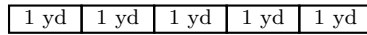
1 year = 52 weeks



1) What is 0.4×0.6 ?

- A. 0.24 C. 2.4
 B. 0.024 D. 24

2) A hallway is 5 yards long. How many feet long is the hallway? (1 yard = 3 feet)



5 yards

- A. 15 feet C. 20 feet
 B. 10 feet D. 30 feet

3) A large crate is 2 meters by 3 meters by 2 meters. What is its volume?



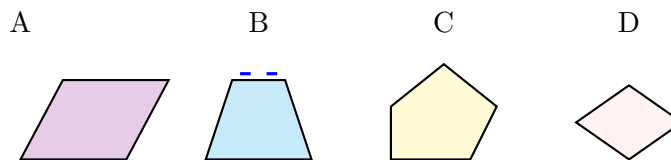
$2 \times 3 \times 2$ m

- A. 8 cubic meters C. 12 cubic meters
 B. 10 cubic meters D. 16 cubic meters

4) Which fraction is equivalent to $\frac{1}{5}$ with denominator 20?

- A. $\frac{1}{20}$ C. $\frac{5}{20}$
 B. $\frac{4}{20}$ D. $\frac{10}{20}$

5) Which figure is described as having exactly one pair of parallel sides and is not a parallelogram?



- A. Figure A C. Figure C
 B. Figure B D. Figure D

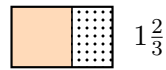


6) A composite play structure is made from two non-overlapping rectangular prisms. Prism A is 5 meters long, 4 meters wide, and 3 meters tall. Prism B is 6 meters long, 2 meters wide, and 5 meters tall. What is the total volume?

- A. 60 cubic meters C. 130 cubic meters
 B. 140 cubic meters D. 120 cubic meters



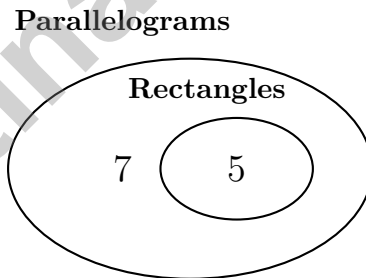
7)



Add: $3\frac{1}{2} + 1\frac{2}{3}$

- A. $4\frac{1}{6}$ C. $5\frac{1}{2}$
 B. $5\frac{1}{6}$ D. $4\frac{1}{2}$

8) A Venn diagram shows rectangles inside parallelograms:



How many parallelograms are outside the rectangle circle?

- A. 5 C. 7
 B. 12 D. 2



Grade 5 Mathematics Reference Materials

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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.)

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WEIGHT AND MASS

Customary

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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) Which student made an error multiplying $\frac{3}{5} \times \frac{2}{7}$?

Student	Work
Leo	$\frac{3}{5} \times \frac{2}{7} = \frac{6}{35}$
Sage	$\frac{3}{5} \times \frac{2}{7} = \frac{3+2}{5+7} = \frac{5}{12}$
Quinn	$\frac{3}{5} \times \frac{2}{7} = \frac{6}{35}$
Riley	$\frac{3}{5} \times \frac{2}{7} = \frac{3}{5} + \frac{2}{7}$

- A. Leo only
- B. Leo and Quinn
- C. Quinn only
- D. Sage and Riley
- 2) Identify the error: A student said a triangle with sides 5 cm, 5 cm, and 8 cm is equilateral.
- A. Correct; all sides are present
- B. Incorrect; it is isosceles because two sides are equal
- C. Incorrect; it is scalene because the sides are different
- D. Incorrect; equilateral triangles must have sides over 5 cm
- 3) Which symbol makes the statement true? $7 \times (8 + 2) \square 7 \times 10$
- A. >
- B. <
- C. =
- D. Cannot tell
- 4) Without computing, which of these products is smaller than 14?
- A. 14×1
- B. $14 \times \frac{7}{6}$
- C. $14 \times \frac{5}{7}$
- D. 14×2



38) Simplify and add: $\frac{2}{8} + \frac{2}{4}$

A. $\frac{4}{12}$

 B. 1 whole

C. $\frac{3}{4}$

 D. $\frac{5}{8}$

39) Convert: 0.6 m = ? cm.

Record your answer in the space provided.

40)

Properties Table

Shape	Parallel sides	Must have all sides equal	90° angles
Square	✓	✓	✓
Rectangle	✓	—	✓
Rhombus	✓	✓	—
Parallelogram	✓	—	—

A shape has both pairs of opposite sides parallel. Which property confirms it is a parallelogram?

 A. It has four sides.

 C. It is a quadrilateral.

 B. Both pairs of opposite sides are parallel.

 D. Only two sides are parallel.

End of Practice Test

Nice work. Pause, breathe, and check your answers with care.



Grade 5 Mathematics

10

Questions: 40 Duration: No time limit

Calculator Policy: Calculators are not allowed



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

- 1) **Choice A is correct.** **(5.NBT.B.7)** Multiply: $4 \times 6 = 24$, then count decimal places: 0.4 has 1 place, 0.6 has 1 place, so $1 + 1 = 2$ places. Result: 0.24.
- 2) **Choice A is correct.** **(5.MD.A.1)** Since 1 yard = 3 feet, multiply $5 \times 3 = 15$. The hallway is 15 feet long.
- 3) **Choice C is correct.** **(5.MD.C.3b)** The crate has $2 \times 3 = 6$ cubic meters in each layer and 2 layers. So $6 \times 2 = 12$ cubic meters.
- 4) **Choice B is correct.** **(5.NF.A.2)** The denominator 5 is multiplied by 4 to make 20, so multiply the numerator by 4: $\frac{1}{5} = \frac{4}{20}$.
- 5) **Choice B is correct.** **(5.G.B.4)** Figure B is described as having exactly one pair of parallel sides, so it is not a parallelogram. Figures A and D are in the parallelogram family because they have two pairs of parallel sides.
- 6) **Choice D is correct.** **(5.MD.C.5c)** Find each part first: Prism A is $5 \times 4 \times 3 = 60$ cubic meters, and Prism B is $6 \times 2 \times 5 = 60$ cubic meters. Because the parts do not overlap, add them: $60 + 60 = 120$ cubic meters.
- 7) **Choice B is correct.** **(5.NF.A.1)** Convert to sixths: $3\frac{3}{6} + 1\frac{4}{6} = 4\frac{7}{6} = 5\frac{1}{6}$.
- 8) **Choice C is correct.** **(5.G.B.4)** The 7 figures in the outer part of the parallelogram circle are parallelograms but not rectangles.
- 9) **Choice C is correct.** **(5.MD.C.5a)** Multiply the three dimensions: $9 \times 4 \times 3 = 36 \times 3 = 108$. The volume is 108 cm^3 .
- 10) **Choice D is correct.** **(5.MD.C.5a)** The known width and height make groups of $5 \times 4 = 20$ cubic units. Since $120 \div 20 = 6$, the length is 6 units.
- 11) **Choice C is correct.** **(5.G.A.2)** The next first coordinate is 4. Use the rule: $4(4) - 2 = 16 - 2 = 14$, so the next point is (4, 14).
- 12) **Choice A is correct.** **(5.NF.B.5b)** $2\frac{2}{5} = \frac{12}{5}$. Then $\frac{12}{5} \times 3 = \frac{36}{5} = 7\frac{1}{5}$.
- 13) **Choice B is correct.** **(5.MD.B.2)** Count the X marks above $1\frac{1}{2}$ inches. There are 4 X marks, so 4 plants were exactly $1\frac{1}{2}$ inches tall.
- 14) **Choice D is correct.** **(5.NF.B.7c)** The model counts sixths inside 3 wholes. So the matching equation is $3 \div \frac{1}{6} = n$.
- 15) **Choice C is correct.** **(5.NBT.B.5)** Multiply: $51 \times 8 = (50 \times 8) + (1 \times 8) = 400 + 8 = 408$.
- 16) **Choice D is correct.** **(5.OA.B.3)** Pattern J is twice Pattern W: $3 \times 2 = 6$, $6 \times 2 = 12$, $9 \times 2 = 18$, $12 \times 2 = 24$.
- 17) **Choice C is correct.** **(5.MD.C.5a)** The base is $12 \times 8 = 96$ square inches. With a height of 10 inches, the volume is $96 \times 10 = 960$ cubic inches.
- 18) **Choice C is correct.** **(5.OA.B.3)** Term 1: 1. Term 2: $1 \times 10 - 2 = 8$. Term 3: $8 \times 10 - 2 = 78$.
- 19) **Choices A, B are correct.** **(5.NBT.A.2)** $10^3 = 1,000 = 10 \cdot 10 \cdot 10$. C uses addition, and D equals 10,000.
- 20) **Choice B is correct.** **(5.NBT.A.2)** Move the decimal 1 place left: $11.4 \div 10 = 1.14$.
- 21) **Choice B is correct.** **(5.NF.B.4b)** The blue region covers 4 out of 6 columns. The red region covers 2 out of 3 rows. The overlap is $\frac{4}{6} \times \frac{2}{3}$.
- 22) **The correct answer is 9 ft^3 .** **(5.MD.C.5)** Box A has volume $8 \times 4 \times 3 = 96$ cubic feet. Box B has volume $7 \times 5 \times 3 = 105$ cubic feet, so Box B is greater by 9 cubic feet.
- 23) **Choice B is correct.** **(5.NF.B.5a)** Both expressions multiply 24 by a fraction. Since $\frac{4}{5} > \frac{2}{3}$, $\frac{4}{5} \times 24$ has the larger value.
- 24) **Choice C is correct.** **(5.MD.B.2)** Add the costs shown by the marks: $(2 \times 2) + (4 \times 3) + (6 \times 2) + (8 \times 3) = 4 + 12 + 12 + 24 = 52$, so the total cost is \$52.
- 25) **The correct answer is 4.** **(5.NBT.A.1)** In the number 346,782, the digits from right to left are: ones (2), tens (8), hundreds (7), thousands (6), ten thousands (4), hundred thousands (3). Therefore, the digit in the ten thousands place is 4.
- 26) **Choice C is correct.** **(5.NBT.B.7)** Line up decimal points and subtract place by place. $8.37 - 5.84 = 2.53$ miles remaining. This confirms the answer.
- 27) **The correct answer is 20 pages.** **(5.G.A.2)** The x-coordinate shows minutes, and the y-coordinate shows pages. So (10, 20) means 10 minutes and 20 pages.



Notes From the Math Gardener

Dear Math Gardener,

◇ Look at how much you've grown! 10 practice tests is like 10 seasons of planting and harvesting. Each problem was a seed, each effort was water, and each "aha!" was sunshine. Your math garden is strong now—and it shows. ◇

★ **What gardeners know:** growth is steady, not sudden. You don't see roots growing, but they are. You don't always feel yourself getting smarter, but you are. The proof is in the questions you can solve today that felt impossible 10 tests ago. ★

Garden Inspection Report

- **Roots (foundation):** DEEP! Your basic skills are solid.
- **Stems (structure):** STURDY! Your problem-solving steps hold up.
- **Leaves (skills):** LUSH! You have many strategies to draw on.
- **Flowers (confidence):** BLOOMING! You believe in your skills.

Gardener's wisdom: keep watering your math garden long after the test. Every habit you built (read carefully, plan, check) will grow with you for years. The test is just one harvest. Your garden keeps growing.

If you want to share a proud moment or ask a question, please email me at jay@testinar.com. I'd love to hear from you!

Jay Daie

Your Math Gardener (Keep Growing!)

PRACTICE TODAY. MASTER TOMORROW.

Give your child the confidence to excel in **Grade 5 Math!**
This book includes **10 complete practice tests** designed to build strong skills, improve test readiness, and achieve success.



10

COMPLETE
PRACTICE
TESTS

- ✓ Realistic. Rigorous.
- ✓ Results-Driven.

More practice today for a **stronger** tomorrow.



THIS BOOK HELPS YOUR CHILD:



Build Confidence

Familiar, focused practice reduces anxiety and boosts self-belief.



Strengthen Skills

Reinforces key math concepts through high-quality, standards-aligned questions.



Improve Test Readiness

Full-length tests help students understand test format, pacing, and question types.



Track Progress

Identify strengths and target areas with purposeful practice.



Achieve Success

Better preparation leads to higher scores and bright futures.

COVERS ALL ESSENTIAL TOPICS

- ✓ Whole Numbers & Operations
- ✓ Fractions & Decimals
- ✓ Algebraic Thinking
- ✓ Geometry
- ✓ Measurement & Data
- ✓ Graphing & Data Analysis
- ✓ Number Patterns
- ✓ Word Problems
- ✓ Ratio & Proportion
- ✓ Perimeter, Area & Volume
- ✓ And More!



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Parents & Teachers