

9

Vermont

VTCAP

GRADE 5 MATHEMATICS PRACTICE TESTS

Full-Length Standards-Aligned Practice
for Strong Math Performance

$$A = l \times w$$

$$x^2 + 3x - 4 = 0$$

$$y = 2x + 1$$



9
FULL-LENGTH
PRACTICE
TESTS

$$2,345 \times 6 = 14,070$$



$$\frac{3}{4} + \frac{1}{8} = \frac{7}{8}$$

$$7.2 \div 0.8 = 9$$



$$(12 + 8) \div 4 = 5$$



Build Confidence



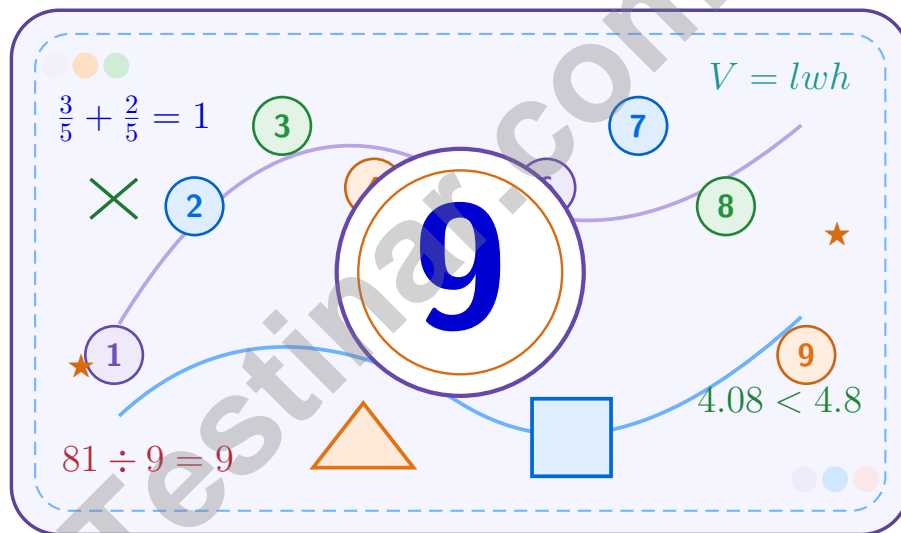
Improve Math Skills



Achieve Success

9 Vermont VTCAP Grade 5 Math Practice Tests

A nine-step confidence climb with clear review, smart strategy, and practice that gets stronger every round



Nine full tests, focused skill boosters, and student-friendly support from start to finish for Grade 5 mathematicians who want to climb higher.

Jay Daie and Reza Nazari



Copyright ©

Testinar Inc



Published by Testinar Inc

Testinar.com

All rights reserved. No part of this publication may be reproduced, distributed, or transmitted in any form or by any means, including photocopying, recording, or other electronic or mechanical methods, without the prior written permission of the author, except in the case of brief quotations embodied in critical reviews and certain other noncommercial uses permitted by copyright law, including Section 107 or 108 of the 1976 United States Copyright Act.

This publication is independently produced and has no official connection to any state, district, or national testing program.

Test names and organizational names used herein are the property of their respective trademark holders.



Copyright ©

Welcome to the Confidence Climb

This book is here to help you practice with purpose and rise step by step

To the Grade 5 Mathematician

This practice book is a place to think, try, fix, and grow. You do not have to be perfect on the first question or the first test. What matters most is careful effort, clear work, and learning from each round of practice.

Use these nine 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 fast.

Try

Give each problem your best thinking.

Check

Study mistakes and learn what happened.

Rise

Bring that lesson into the next round.

A strong habit for every page: 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.

How to Use This Book

A simple practice routine that turns nine tests into steady growth

A Nine-Session Climb Map

Session	Mission Focus
1	Take Test 1; review place value and operation slips.
2	Take Test 2; keep work neat and easy to read.
3	Take Test 3; give extra time to fractions and decimals.
4	Take Test 4; slow down on word problems and units.
5	Take Test 5; compare scores and habits with earlier rounds.
6	Take Test 6; notice which habits are now automatic.
7	Take Test 7; explain open-ended answers clearly.
8	Take Test 8; review topics that still need attention.
9	Take Test 9; finish with calm, careful, confident work.

Step 1: Warm Up

Start with the quick review.
Spend a few minutes refreshing the ideas before you start a test.

Step 2: Take the Test

Take one full practice test.
Work in a quiet space and let accuracy matter more than speed.

Step 3: Study the Pattern

Check your work honestly.
Circle missed questions and notice patterns in the mistakes.

Step 4: Learn, Then Retry

Read the explanation and try again.
Learning happens after the test too. Fixing mistakes is one of the smartest parts of practice.



Scan me

Test Overview

What this practice book helps students do

These practice tests are designed to help Grade 5 students get comfortable with the kind of thinking used on the Vermont VTCAP. The goal is bigger than only getting answers right. Students are practicing how to read closely, choose a strategy, solve carefully, and explain their work when needed.

Selected-Response Questions

Students solve the problem and choose the best answer. Estimating first and crossing out weak choices can save time and points.

Constructed-Response Questions

Students show their thinking, steps, models, or explanations. Even when unsure, writing what they know can help organize the problem.

Grade 5 Skills You Will Practice Often

- place value, comparing numbers, and rounding
- multi-digit addition, subtraction, multiplication, and division
- fractions, decimals, and mixed numbers
- perimeter, area, volume, and measurement conversions
- coordinate points, patterns, graphs, and tables
- geometry and multi-step word problems

What strong work looks like: the answer is correct, the steps are clear, the labels or units are included, and the final result makes sense.



Table of Contents

★ Practice Test 1	_____	16
★ Practice Test 2	_____	31
★ Practice Test 3	_____	45
★ Practice Test 4	_____	62
★ Practice Test 5	_____	78
★ Practice Test 6	_____	93
★ Practice Test 7	_____	107
★ Practice Test 8	_____	124
★ Practice Test 9	_____	138
Practice Test Answer Keys	_____	154
Practice Test Answers and Explanations	_____	160

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

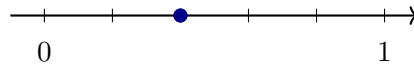
1 day = 24 hours (hr) 1 year = 52 weeks



1) Which expression is greater: $100 - (40 + 30)$ or $(100 - 40) + 30$?

- A. $100 - (40 + 30)$ C. The expressions are equal.
 B. Cannot be determined. D. $(100 - 40) + 30$

2) What fraction is marked by the dot on the number line?



- A. $\frac{1}{5}$ C. $\frac{3}{5}$
 B. $\frac{2}{5}$ D. $\frac{1}{2}$
- 3) You divide a decimal by 100. What happens to the decimal point?
- A. It moves 2 places to the left C. It moves 2 places to the right
 B. It moves 1 place to the right D. It moves 1 place to the left
- 4) During a project, a student completes $\frac{5}{12}$ of the work on Tuesday and $\frac{1}{6}$ on Thursday. How much is complete?
- A. $\frac{1}{4}$ C. $\frac{7}{12}$
 B. $\frac{1}{2}$ D. $\frac{6}{18}$
- 5) Evaluate the expression: $\{36 \div (3 + 3)\} + \{(2 \times 3) \times 4\}$

Record your answer in the space provided.



- 6) Write a division equation for: $\frac{1}{6}$ of a cake shared equally by 3 children.

Record your answer in the space provided.

- 7) Find the missing addend: $\frac{5}{12} + ? = \frac{7}{8}$

A. $\frac{11}{24}$
 B. $\frac{2}{4}$

C. $\frac{2}{12}$
 D. $\frac{2}{8}$

- 8) Pattern: 1, 2, 4, 7, 11, ... Which rule explains the pattern and gives the next number?

A. Add 3 each time; next is 14

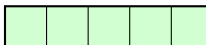
C. Add 1, then 2, then 3, then 4, then 5;

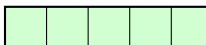
B. Add 1, then 2, then 3, then 4; next is 15

D. Add 1, then 2, then 3, then 4, then 5; next is 16

D. Multiply by 2; next is 22

- 9) The model shows 2 wholes, with each whole cut into pieces of size $\frac{1}{5}$. How many pieces of size $\frac{1}{5}$ are there in all?

1 whole 

1 whole 

2 wholes, each cut into pieces of size $\frac{1}{5}$

A. 7

C. 2

B. 5

D. 10



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) Maria is mixing fruit punch. She needs 2 cups of juice. She already measured 1 cup 4 fluid ounces. How much more juice does she need to add?

Use: 1 cup = 8 fluid ounces

- A. 4 fluid ounces C. 12 fluid ounces
 B. 8 fluid ounces D. 16 fluid ounces

- 2) In the expression $(8 + 4) + 17$, how does the value compare with $(8 + 4)$? Write a short phrase.

Record your answer in the space provided.

- 3) Which statement correctly describes a triangle?

- A. An equilateral triangle has one angle of 90 degrees C. An isosceles triangle has no equal sides
 B. An obtuse triangle has no angle greater than 90 degrees D. A scalene triangle has all sides different

- 4) Cara saves \$4 a week for 6 weeks, then spends \$9. Which expression shows her savings now?

- A. $4 + 6 - 9$ C. $4 \times (6 - 9)$
 B. $(4 + 6) \times 9$ D. $4 \times 6 - 9$



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



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) Pattern Eta: 4, 8, 12, 16. Pattern Theta: 7, 11, 15, 19. Analyze the table. Which rule applies?

Eta	Theta
4	7
8	11
12	15
16	19

- A. Theta is 3 more than Eta
- B. Theta is twice Eta
- C. Theta is 3 less than Eta
- D. Theta is 7 more than Eta
- 2) Which expression represents “multiply the sum of 3 and 5 by 2”?
- A. $3 + 5 \times 2$
- B. $(3 + 5) \times 2$
- C. $3 \times (5 + 2)$
- D. $3 + (5 \times 2)$



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 Vermont scores.

Testinar.com



Scan me

Practice Test Answers and Explanations

Practice Test 1 Answers and Explanations

- Choice D is correct.** (5.OA.A.2) The first expression subtracts the whole grouped amount $(40 + 30)$ from 100. The second expression subtracts 40 first, then adds 30 back, so the second expression is greater.
- Choice B is correct.** (5.OA.A.2) The number line shows the dot positioned at $\frac{2}{5}$ (two-fifths of the way from 0 to 1).
- Choice A is correct.** (5.NBT.B.7) Dividing by 100 shifts the decimal point 2 places to the left. For example, $45.6 \div 100 = 0.456$.
- Choice C is correct.** (5.NF.A.2) $\frac{1}{6} = \frac{2}{12}$. Then $\frac{5}{12} + \frac{2}{12} = \frac{7}{12}$ of the project is complete.
- The correct answer is 30.** (5.OA.A.1) Left: $3 + 3 = 6$, $36 \div 6 = 6$. Right: $2 \times 3 = 6$, $6 \times 4 = 24$. Sum: $6 + 24 = 30$.
- The correct answer is $\frac{1}{6} \div 3 = n$.** (5.OA.A.1) The one-sixth piece is shared among 3 children, so divide by 3. Accept equivalent division equations; the final value $\frac{1}{18}$ may be included if the equation is shown.
- Choice A is correct.** (5.NF.B.7c) Rearrange: $? = \frac{7}{8} - \frac{5}{12}$. LCM(8,12) = 24. $\frac{7}{8} = \frac{21}{24}$ and $\frac{5}{12} = \frac{10}{24}$. $\frac{21}{24} - \frac{10}{24} = \frac{11}{24}$.
- Choice C is correct.** (5.NF.A.1) Differences: 1, 2, 3, 4, so next difference is 5: $11 + 5 = 16$.
- Choice D is correct.** (5.NF.B.7c) Each whole contains 5 pieces of size $\frac{1}{5}$. With 2 wholes, there are $2 \times 5 = 10$ pieces.
- Choice D is correct.** (5.NBT.A.2) Dividing by 100 moves the decimal 2 places left: $15.7 \rightarrow 1.57 \rightarrow 0.157$.
- Choice B is correct.** (5.NBT.A.2) Football sales are double basketball sales: $2 \times 5 = 10$, $2 \times 10 = 20$, $2 \times 15 = 30$, and $2 \times 20 = 40$.
- Choice D is correct.** (5.MD.B.2) Count the puppies first: $1 + 2 + 2 + 3 + 1 = 9$ puppies. Each puppy gets $\frac{1}{2}$ cup, so $9 \times \frac{1}{2} = 4\frac{1}{2}$ cups.
- Choice A is correct.** (5.MD.C.5) Use the rectangular-prism volume formula: $7 \times 3 \times 3 = 63$. So the volume is 63 cubic centimeters.
- Choice C is correct.** (5.MD.C.5) A power of 10 tells how many factors of 10 to use. 10^2 means $10 \times 10 = 100$. This confirms the answer.
- Choice A is correct.** (5.NBT.A.2) $\frac{1}{3} \times \frac{3}{4} = \frac{3}{12} = \frac{1}{4}$ pound.
- Choice C is correct.** (5.NF.B.5b) Multiply: $24 \times 15 = 24 \times (10 + 5) = 240 + 120 = 360$.
- Choice B is correct.** (5.NBT.B.5) The figure shows one pair of parallel sides (bottom and top) and two non-parallel sides, making it a trapezoid.
- Choice B is correct.** (5.MD.B.2) There are 2 X marks above $\frac{1}{4}$, so the total is $\frac{1}{4} + \frac{1}{4} = \frac{1}{2}$ cup.
- Choice B is correct.** (5.G.A.2) For each point: $2/2 = 1$, $4/2 = 2$, $6/2 = 3$, $8/2 = 4$. The y -value is half the x -value.
- Choice C is correct.** (5.NBT.A.2) The nonzero part 4×25 makes 100, which has two zeros. The factor 400 adds two more zeros, so the product has 4 zeros.
- Choice C is correct.** (5.NBT.A.2) $\frac{7}{6} > 1$, so the product $36 \times \frac{7}{6} = 42 > 36$.
- Choices A, B, C are correct.** (5.MD.C.5c) Volume is measured in cubic units. For non-overlapping rectangular prisms, multiply each part's dimensions and add the part volumes.
- Choice D is correct.** (5.NF.B.7c) Each foot has 3 one-third-foot pieces, so 4 feet has $4 \times 3 = 12$ pieces.
- The correct answer is 340.** (5.NF.B.7c) Multiplying by 100 moves the decimal point two places to the right: $3.4 \rightarrow 340$.
- Choice D is correct.** (5.NBT.A.2) The known length and height make groups of $12 \times 9 = 108$ cubic inches. Since $432 \div 108 = 4$, the width is 4 in.
- Choice B is correct.** (5.MD.C.5) Width is the horizontal distance left to right, determined by the difference in x -coordinates: $6 - 1 = 5$ units.
- Choice A is correct.** (5.MD.C.5a) $V = B \times h = 16 \times 10 = 160 \text{ cm}^3$.
- Choice A is correct.** (5.NF.A.2) $\frac{5}{6} - \frac{1}{6} = \frac{4}{6}$, simplifies to $\frac{2}{3}$.
- Choice D is correct.** (5.NF.A.2) A common denominator for $\frac{1}{2}$ and $\frac{1}{3}$ is 6. $\frac{1}{2} = \frac{3}{6}$ and $\frac{1}{3} = \frac{2}{6}$.
- Choice C is correct.** (5.NF.A.2) Maya ignored the 0 in the tenths place. The correct reading is "three and nine hundredths", not "three and nine tenths".



Dear Hero of This Story,

◇ Once upon a time, there was a brave Grade 5 student who decided to take 9 practice tests. At first, the problems were tough. But the student kept showing up, kept trying, and kept learning. Slowly, the tough problems became easier. The student's confidence grew. By the time the 9th test was finished, that student had become the hero of their own math story. That student is you. ◇

★ **Storytellers know:** every great story has a hard middle. The hard middle is where the hero grows. You've lived your hard middle, and now your story is heading toward a strong ending: a confident test day. ★

Your Hero's Toolkit

- **Brave Heart:** You face hard problems instead of running.
- **Sharp Mind:** You think carefully before you act.
- **Steady Hand:** You write neatly and check your work.
- **Kind Spirit:** You're patient with yourself when you make mistakes.

Storyteller's tip: when you sit down on test day, remember the hero you've become. The chapters before this moment have made you stronger. Now, write your best chapter yet.

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 Storyteller (The Best Pages Are Ahead)

PRACTICE MORE. ACHIEVE MORE.

Give your child the edge they need to excel in **Grade 5 Math!** This book includes **9 full-length** practice tests designed to build confidence, sharpen skills, and improve test performance.

9

**FULL-LENGTH
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!



Visit testinar.com/math5

for more Grade 5 math resources and practice materials!



Aligned to Standards



Created by Educators



Trusted by Parents & Teachers