

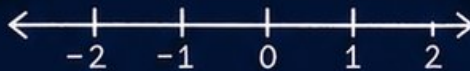
6

Vermont VTCAP

GRADE 5 MATH

PRACTICE TESTS

Complete Standards-Based Practice
— for Grade 5 Math Success —



**6 FULL-LENGTH
PRACTICE TESTS**

Realistic style questions



**STANDARDS-BASED
PRACTICE**

Covers all Grade 5
Math standards



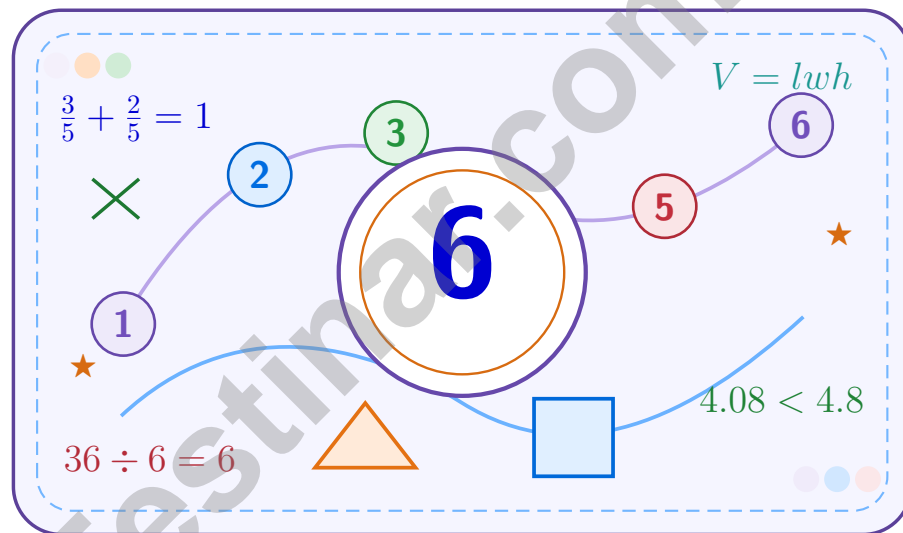
**BUILD CONFIDENCE.
IMPROVE SCORES.**

Target weak areas and
achieve success

★ **STRONG PRACTICE. BRIGHT FUTURE.** ★

6 Vermont VTCAP Grade 5 Math Practice Tests

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



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

Jay Daie and Reza Nazari



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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 six 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 six tests into steady growth

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.

A Six-Week Climb Map

Week	Mission Focus
Week 1	Take Test 1 and review any place-value or operation slips.
Week 2	Take Test 2 and focus on showing neat, easy-to-read work.
Week 3	Take Test 3 and give extra time to fractions or decimals if needed.
Week 4	Take Test 4 and slow down on word problems and units.
Week 5	Take Test 5 and compare your score and habits with earlier rounds.
Week 6	Take Test 6 and finish with calm, careful, confident work that uses everything you practiced before.



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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

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Grade 5 Mathematics

1

Questions: 40 Duration: No time limit

Calculator Policy: Calculators are not allowed



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

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1) A paint can holds $1\frac{1}{2}$ gallons. How many gallons are in 7 paint cans?

- A. $10\frac{1}{2}$ gallons C. 9 gallons
 B. 11 gallons D. $8\frac{1}{2}$ gallons

2)

40×10 = 400	3×10 = 30
40×10 = 400	3×10 = 30

This area model shows the partial products for 43×20 . What is the total?

- A. 820 C. 880
 B. 860 D. 900
- 3) Use the meaning of $\frac{1}{3} \times \frac{1}{4}$ in an area model: shade $\frac{1}{3}$ of one direction and $\frac{1}{4}$ of the other in a rectangle. What fraction of the rectangle is double-shaded?

Record your answer in the space provided.

4) Pattern A: 0, 5, 10, 15, 20. Pattern B: 0, 2, 4, 6, 8. For nonzero terms, each A value is how many times the matching B value?

Record your answer in the space provided.



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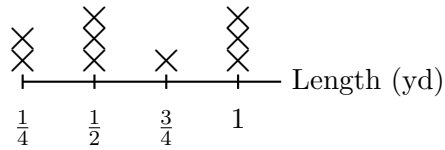
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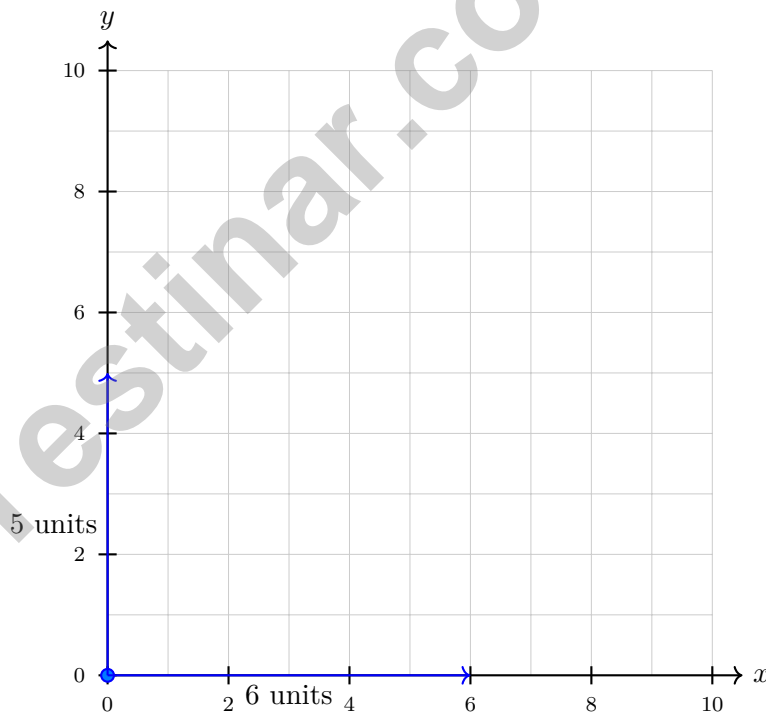
1) The line plot shows lengths of fabric strips, in yards:



What is the total length of the fabric strips shorter than 1 yard?

- | | |
|--|--|
| <input type="checkbox"/> A. 2 yards | <input type="checkbox"/> C. $2\frac{3}{4}$ yards |
| <input type="checkbox"/> B. $2\frac{1}{4}$ yards | <input type="checkbox"/> D. $3\frac{1}{4}$ yards |

2) A rectangle has one vertex at the origin. It is 6 units wide and 5 units tall. Which ordered pair names the opposite vertex?



- | | |
|------------------------------------|------------------------------------|
| <input type="checkbox"/> A. (5, 6) | <input type="checkbox"/> C. (6, 5) |
| <input type="checkbox"/> B. (6, 0) | <input type="checkbox"/> D. (0, 5) |



Grade 5 Mathematics Reference Materials

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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.MD.C.5a)** The base area is $40 \times 15 = 600$ square feet. Since $4800 \div 600 = 8$, the pool must be 8 feet deep.
- Choice A is correct.** **(5.NBT.B.6)** Round: $1,456 \approx 1,500$ and $48 \approx 50$. So $1,500 \div 50 = 30$. Actual: $1,456 \div 48 = 30$ R16.
- Choice B is correct.** **(5.MD.A.1)** 1 centimeter = 10 millimeters. Divide: $450 \div 10 = 45$ cm.
- Choice A is correct.** **(5.NF.A.1)** Convert to eighths: $2\frac{2}{8} + 1\frac{3}{8} = 3\frac{5}{8}$.
- Choice C is correct.** **(5.NF.A.1)** $\text{LCM}(5,3,15) = 15$. $\frac{1}{5} = \frac{3}{15}$, $\frac{1}{3} = \frac{5}{15}$, $\frac{1}{15} = \frac{1}{15}$. Sum = $\frac{3}{15} + \frac{5}{15} + \frac{1}{15} = \frac{9}{15} = \frac{3}{5}$ of the wall.
- Choice D is correct.** **(5.MD.B.2)** The most common value is the one with the greatest number of X marks. 5 has 4 X marks, which is more than 2 (2 marks), 3 (1 mark), 4 (3 marks), or 6 (2 marks).
- The correct answer is 9.** **(5.NBT.B.7)** Use place-value reasoning to keep the decimal in the correct place. Multiply both by 10: $72 \div 8 = 9$. This confirms the answer.
- Choice B is correct.** **(5.NF.A.2)** Multiples of 9: 9, 18, 27, 36, ... Multiples of 12: 12, 24, 36, ... The first common multiple is 36, so the LCD is 36.
- Choice A is correct.** **(5.NF.B.7c)** Divide a unit fraction by a whole number: $\frac{1}{4} \div 5 = \frac{1}{4} \times \frac{1}{5} = \frac{1}{20}$ pound per student.
- Choice A is correct.** **(5.MD.C.4)** The base has $5 \times 7 = 35$ unit cubes. Since the total volume is 35 unit cubes, the prism has 1 layer, so the height is 1 unit.
- The correct answer is 40.** **(5.NF.B.7c)** Each whole contains 4 fourths. Ten wholes contain $10 \times 4 = 40$ fourths, so the quotient is 40.
- The correct answer is $2\frac{1}{2}$ m.** **(5.NF.B.6)** $3 \times \frac{5}{6} = \frac{15}{6} = \frac{5}{2} = 2\frac{1}{2}$ m.
- Choice A is correct.** **(5.NBT.A.2)** 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 A is correct.** **(5.G.A.2)** Rule A: 1, 4, 7, 10. Rule B: 0, 4, 8, 12. Pairs (Rule A, Rule B) are listed in choice A.
- Choice D is correct.** **(5.OA.B.3)** Pattern J is twice Pattern W: $3 \times 2 = 6$, $6 \times 2 = 12$, $9 \times 2 = 18$, $12 \times 2 = 24$.
- Choice D is correct.** **(5.NF.B.5b)** $1\frac{3}{4} = \frac{1 \times 4 + 3}{4} = \frac{7}{4}$. Then $\frac{7}{4} \times 2 = \frac{14}{4} = 3\frac{1}{2}$.
- Choice A is correct.** **(5.NF.A.2)** Equivalent fractions are made by multiplying or dividing the numerator and denominator by the same nonzero number. $\frac{3 \div 3}{6 \div 3} = \frac{1}{2}$.
- Choice C is correct.** **(5.NF.A.2)** $\frac{7}{14} = \frac{1}{2}$, and $\frac{1}{10}$ is close to 0 as a benchmark. So the sum is closest to $\frac{1}{2}$ among the estimates shown.
- The correct answer is 9.** **(5.MD.C.5)** The known width and height make groups of $5 \times 4 = 20$ cubic inches. Since $180 \div 20 = 9$, the length is 9 in.
- Choice B is correct.** **(5.NBT.A.2)** Divide pennies by 100 to convert to dollars: $8,400 \div 100 = 84$. So Carla has \$84.
- Choices A, B are correct.** **(5.NBT.A.1)** The places are 3 ones, 4 tenths, 7 hundredths, and 2 thousandths. So A and B are true; the 2 is in the thousandths place and the 3 is in the ones place.
- Choice C is correct.** **(5.MD.C.5c)** Work one prism at a time: $11 \times 3 \times 4 = 132$, $9 \times 5 \times 4 = 180$, and $8 \times 2 \times 4 = 64$. Add the non-overlapping volumes: $132 + 180 + 64 = 376$ cubic meters.
- Choice C is correct.** **(5.NF.B.7c)** $\frac{1}{6} \div 2 = \frac{1}{6} \times \frac{1}{2} = \frac{1}{12}$.
- Choice A is correct.** **(5.NBT.A.3b)** All have 6 ones. Compare the tenths and hundredths: $6.02 < 6.18 < 6.35 < 6.50$.
- Choice D is correct.** **(5.NBT.A.2)** A: $10 \times 5.3 = 53$ (false). B: $100 \times 5.3 = 530$ (true). C: $1000 \times 0.53 = 530$ (false). D: $10 \times 0.053 = 0.53$ (false).
- Choice D is correct.** **(5.OA.A.2)** The product of 5 and 4 is 5×4 . "Three more than" means add 3 to that product, so $3 + 5 \times 4$ matches the phrase.
- Choice D is correct.** **(5.MD.A.1)** One route is 3,250 meters. Two routes are $3,250 \times 2 = 6,500$ meters.
- Choice D is correct.** **(5.NF.B.7c)** Use total amount divided by the size of one piece. The equation is $8 \div \frac{1}{3} = n$.



Research Conclusion Report

Greetings, Research Fellow!

★ Research breakthrough achieved! You've completed six comprehensive mathematical investigations, testing hypotheses, analyzing variables, and reaching valid conclusions like a dedicated researcher! Each problem represented a unique research question, and you approached every one with scientific rigor and methodical thinking. Your research methodology has become exemplary! ★

◇ **Here's what distinguished researchers know:** breakthrough discoveries come from persistent investigation and careful analysis. They replicate experiments to verify results and document findings meticulously. You've practiced that same scientific discipline through these six tests! Your mathematical research skills are now publication-ready! ◇

Research Quality Metrics

1. **Methodology:** Your problem-solving approaches are systematic and logical!
2. **Data Analysis:** You evaluate information thoroughly before concluding!
3. **Verification:** You confirm results carefully to ensure accuracy!
4. **Publication Ready:** Your research stands up to peer review standards!

Research principle: credible scientists verify their findings before sharing conclusions. On test day, apply that same careful verification standard. After solving each problem, check whether your answer makes logical sense. Review your calculations. Confirm your reasoning. You've practiced scientific verification six times; trust your research instincts!

Want to share groundbreaking mathematical research or discuss experimental methodologies? Submit your findings to reza@testinar.com. The scientific community values your contributions!

Reza Nazari & Jay Daie

Your Math Coaches for Today and Test Day

6 FULL-LENGTH TESTS. ENDLESS POTENTIAL.

PRACTICE TODAY. SUCCEED TOMORROW.

Give your child the tools they need to build strong math skills and test-taking confidence! This book includes **6 full-length practice tests** along with standards-based practice, mixed review, word problems, and a complete answer key.

★★★
PRACTICE
WITH PURPOSE.
ACHIEVE WITH
CONFIDENCE.

WHAT'S INSIDE:



6 FULL-LENGTH PRACTICE TESTS

Realistic tests designed to reflect the actual test format and help build confidence.



STANDARDS-BASED PRACTICE

Covers all essential Grade 5 math standards with clear explanations and examples.



MIXED REVIEW

Reinforces key concepts with a variety of question types and review exercises.



WORD PROBLEMS

Build critical thinking and problem-solving skills with real-world scenarios.



COMPLETE ANSWER KEY

Step-by-step explanations for every question to support learning and growth.



IMPROVE. PRACTICE. ACHIEVE.

Consistent practice leads to stronger skills, higher scores, and greater success.



WHY PRACTICE MAKES A DIFFERENCE



BUILD CONFIDENCE

Feel prepared and ready for any challenge.



IMPROVE ACCURACY

Strengthen skills and reduce careless mistakes.



THINK STRATEGICALLY

Develop problem-solving skills and deepen understanding.



MANAGE TIME

Practice under timed conditions to build stamina.



STAY MOTIVATED

Track progress and celebrate every win.



ACHIEVE SUCCESS

Reach goals and unlock your full potential!



Visit testinar.com/math5

for more Grade 5 math resources and practice materials!



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Smart Practice. Stronger Results.