

9

Vermont VTCAP

GRADE

6

MATH

PRACTICE TESTS

Standards-Aligned Review
Mixed Practice & Answer Key



9 PRINTED TESTS

Realistic practice to build confidence and mastery



DETAILED ANSWER EXPLANATIONS

Learn with step-by-step solutions



FOCUSED & EFFECTIVE

Target key math skills with purposeful practice



BUILD CONFIDENCE

Strengthen problem solving and test-taking skills



9 PRINTED TESTS
+2 ONLINE TESTS

Use these two additional online practice tests for extra review after the printed tests in this book.

**PRACTICE TODAY.
SUCCEED TOMORROW.**



PRACTICE



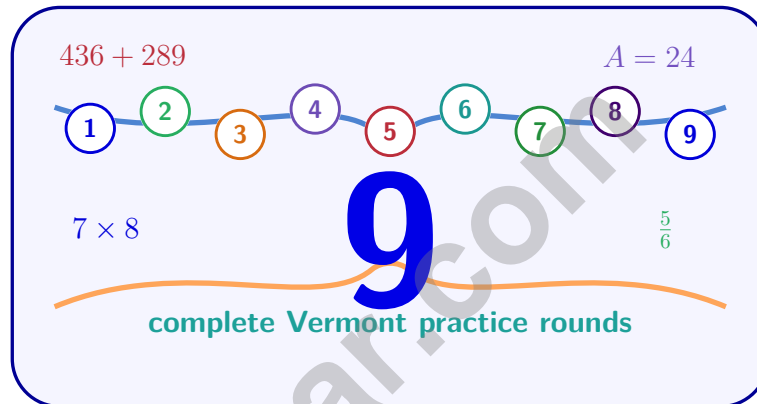
REVIEW



SUCCEED

9 Vermont VTCAP Grade 6 Math Practice Tests

Standards-Aligned Green-Mountain Precision for Vermont Comprehensive Assessment Program



Nine complete 40-question Grade 6 practice rounds for VTCAP, built for green-mountain precision with ratios, rational numbers, expressions, equations, geometry, statistics, answer keys, and clear explanations for every item.

Jay Daie and Reza Nazari



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Welcome, Vermont Math Explorer!

Nine focused rounds using green-mountain precision

This book gives you nine full Grade 6 practice tests for VTCAP. Each round uses mountain lanes, quiet classrooms, and careful number sense as a fresh mental backdrop while you read closely, choose a smart strategy, show your work, and check whether your answer makes sense.

Your Vermont Practice Promise

Keep the solution sturdy: read slowly, organize facts, and check the final answer.

Read

Plan

Check

How to Use This Book

A nine-session routine for green-mountain precision

1. **Preview the skills.** Scan the quick review pages before beginning the first round.
2. **Mark confidence.** Put a small star beside problems where your plan felt strong.
3. **Work in order.** Take one 40-question test at a time in a quiet place.
4. **Plan the next round.** Use the growth log to choose one habit and one skill to practice.
5. **Correct actively.** Retry missed items before reading the full explanation.

Vermont review rhythm: Use each round like a trail marker, then review what to strengthen before the next test.



What Is Inside?

Nine VTCAP tests, 360 questions, and a full review path

Part	What You Will Practice
Tests 1–3	Foundation rounds for ratios, rational numbers, operations, and careful reading.
Tests 4–6	Skill-building rounds with expressions, equations, geometry, data, and problem models.
Tests 7–9	Final stamina rounds for mixed review, neat work, and flexible strategy choices.
Answer Pages	Compact keys and explanations that show why each answer works.

The tests are mixed on purpose. Green-mountain precision means recognizing the skill even when the next question changes topic, changes format, or asks for an explanation.



Scan me!
For more practice
& answers

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6) Compute: $(-4) \times (-2) \times 3$

A. -24

C. 9

B. -9

D. 24

7) If $\frac{1}{4}$ gallon of paint costs \$8, how much does 1 gallon of paint cost?

Remainder Interpretation: $8,350 \div 40$

$$40 \times 200 = 8,000 \Rightarrow \text{remainder } 350$$

$$40 \times 8 = 320 \Rightarrow \text{remainder } 30$$

Quotient: 208, Remainder: 30

As a mixed number: $208\frac{30}{40} = 208\frac{3}{4}$

As a decimal: 208.75

8)

What is $8,350 \div 40$ expressed as a mixed number?

A. $208\frac{30}{40}$ or $208\frac{3}{4}$

C. $209\frac{1}{4}$

B. $207\frac{1}{2}$

D. $206\frac{7}{8}$

9) Which multiplication has the decimal point in the correct place?

A. $2.3 \times 5.1 = 117.3$

C. $2.3 \times 5.1 = 11.73$

B. $2.3 \times 5.1 = 1173$

D. $2.3 \times 5.1 = 1.173$



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10) What is the GCF of 18, 27, and 45?

A. 3

C. 6

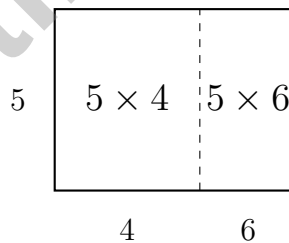
B. 9

D. 18

11) Sofia has assets totaling \$1500 (savings, laptop, jewelry). She owes \$200 in debt. What is her net worth?

12) The table shows $h = 2, 4, 6$ and $s = 8, 16, 24$. What is the constant of proportionality?

13) The area model below represents a factored sum. What is the factored form?



A. $5(4 + 6) = 50$

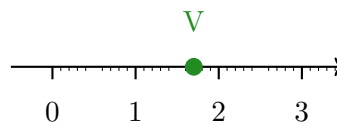
C. $(4 + 6)(5) = 50$

B. $4(5 + 6) = 44$

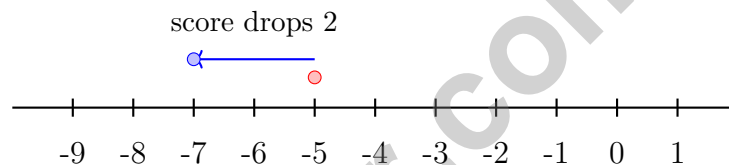
D. $5 \times 10 = 50$



- 1) The number line below shows tick marks at tenths. Which decimal is at point V?



- A. 1.5 C. 1.7
 B. 1.6 D. 1.8
- 2) A golf player has a score of -5 (5 under par). She then plays another hole and her score drops by 2 more strokes. What is her new total score?



- A. -7 C. 3
 B. -3 D. 7
- 3) In a football game, a team gained 12 yards on one play and lost 8 yards on the next play. What was the net yardage change?
- A. 4 yards C. -20 yards
 B. -4 yards D. 20 yards
- 4) Marcus solved $4,368 \div 28$ using long division and wrote 156 with no remainder. Which statement verifies his result?

- A. $28 \times 156 = 4,368$ exactly, so the answer is correct. C. $28 \times 156 = 4,568$, so the quotient is too low.
 B. $28 \times 156 = 4,268$, so the quotient is too high. D. The remainder must be 28.



5) Which is a multiple of both 4 and 6?

A. 8

C. 18

B. 12

D. 10

6) Which expression shows the distributive property correctly?

A. $5(2 + 8) = 10 + 8$

C. $5(2 + 8) = 5 + 2 + 5 + 8$

B. $5(2 + 8) = 10 + 40$

D. $5(2 + 8) = 50$

7) If the temperature at noon was 12°C and it dropped 20°C by midnight, what was the temperature at midnight?

A. 32°C

C. 8°C

B. 20°C

D. -8°C

8) In which quadrant is the point $(-3, 4)$ located?

A. Quadrant I

C. Quadrant III

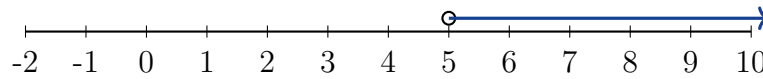
B. Quadrant II

D. Quadrant IV



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& answers

1) Examine this number line. Which inequality does it represent?



- A. $x \leq 5$ C. $x > 5$
 B. $x < 5$ D. $x \geq 5$

2) When displaying temperature data that varies seasonally throughout a year, which display would be LEAST effective?

- A. Line graph with months on x-axis C. Histogram grouping temperatures into ranges
 B. Dot plot of all 365 daily temperatures D. Bar graph with one bar per month

3) A circle has a radius of 7 meters. Using $\pi \approx \frac{22}{7}$, what is the approximate area?

- A. 22 m^2 C. 154 m^2
 B. 44 m^2 D. 308 m^2

4) The data set is: 1, 2, 3, 4, 20. Which is a true statement?

- A. The median better represents the data C. Mean and Median are equal
 B. The mean better represents the data D. The mode is higher than both



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& answers

5) Which event is **certain** to happen?

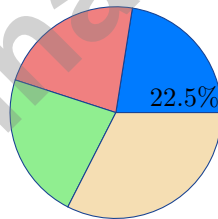
- A. Rolling a number greater than 6 on a standard die.
- B. Drawing a card from a deck and it being a heart.
- C. Flipping a coin and it landing on heads or tails.
- D. Picking a red apple from a mixed fruit bowl.

6) A game records scores over 12 rounds:

Stem	Leaf
4	5, 7, 8
5	1, 2, 4, 6, 8, 9
6	2, 3

What is the difference between the maximum and minimum scores?

- A. 18
- B. 17
- C. 16
- D. 15



7)

A company surveys 800 employees about work location. The circle graph shows 22.5% work from home. How many employees work from home?

- A. 180
- B. 160
- C. 200
- D. 220



Vermont VTCAP Practice Test Answer Keys

How to use this Vermont VTCAP answer section with a Grade 6 student:

1. check the answer first, then write one quick reason the choice is correct
2. mark questions to try again, especially the skills that feel connected to green-mountain precision
3. rework the problem before reading the full explanation, using this reminder:
Keep the solution sturdy: read slowly, organize facts, and check the final answer.

A calm Vermont correction routine turns every missed item into useful practice. Use each round like a trail marker, then review what to strengthen before the next test.



Vermont Practice Test Answers and Explanations

Review the nine printed VTCAP tests with sturdy, thoughtful, and ready for the next trail habits.

Practice Test 1 Answers and Explanations

- Choice A is correct.** (6.RP.A.3) The table shows apples to oranges as 6 : 9. Divide both parts by 3 to get the equivalent simplified ratio 2 : 3.
- Choice C is correct.** (6.RP.A.3) Convert to the same units: 1 inch = 3 feet = 36 inches. Scale factor is 36 : 1.
- Choice A is correct.** (6.NS.C.7c) The opposite of a positive number is its negative. The opposite of 7 is -7 , equidistant from zero on the other side.
- Choice C is correct.** (6.NS.C.6c) $\frac{2}{5} = \frac{4}{10} = 0.4$, so $-\frac{2}{5} = -0.4$.
- Choice B is correct.** (6.NS.C.7d) -1.2 is closer to zero than -1.5 , so -1.2 is greater.
- Choice D is correct.** (6.NS.B.3) First: $(-4) \times (-2) = 8$ (negative times negative is positive). Then: $8 \times 3 = 24$.
- The correct answer is 32.** (6.RP.A.3) Unit cost: $8 \div \frac{1}{4} = 8 \times 4 = 32$ dollars per gallon.
- Choice A is correct.** (6.NS.B.2) $8,350 \div 40 = 208$ remainder 30. The remainder 30 out of 40 is $\frac{30}{40} = \frac{3}{4}$, so the mixed number is $208\frac{3}{4}$.
- Choice C is correct.** (6.NS.B.3) $23 \times 51 = 1173$. We have $1 + 1 = 2$ decimal places total, so 11.73 is correct.
- Choice B is correct.** (6.NS.B.4) Factors of 18: 1, 2, 3, 6, 9, 18. Factors of 27: 1, 3, 9, 27. Factors of 45: 1, 3, 5, 9, 15, 45. Common to all three: 1, 3, 9. GCF is 9.
- The correct answer is 1300.** (6.NS.C.7d) Net worth = Assets - Debts = $\$1500 - \$200 = \$1300$.
- The correct answer is 4.** (6.NS.C.7d) Check the ratio each time: $8/2 = 4$, $16/4 = 4$, and $24/6 = 4$. The constant of proportionality is 4.
- Choice A is correct.** (6.NS.B.4) The rectangle shows a common factor of 5 with widths 4 and 6. Factor first: $5(4 + 6)$ totals 50. Choice B flips roles (height 5 splits differently), while D skips the inner sum.
- Choice B is correct.** (6.NS.C.5) Starting at floor 0: up 6 brings us to floor 6. Down 10 from floor 6 brings us to floor $6 - 10 = -4$ (four floors below ground level).
- Choice C is correct.** (6.NS.C.8) By definition, Quadrant II is in the upper left, where $x < 0$ and $y > 0$.
- Choice D is correct.** (6.NS.C.8) Distance on map: $|7 - 2| = 5$ units. Actual distance: $5 \times 20 = 100$ meters.
- Choice A is correct.** (6.EE.A.3) Distribute then combine: $3x + 6 + 2x = 5x + 6$.
- Choice D is correct.** (6.G.A.1) Area = $18 \times 10 = 180 \text{ m}^2$.
- Choice C is correct.** (6.G.A.2) $V = 3.5 \times 2 \times 1.5 = 7 \times 1.5 = 10.5 \text{ ft}^3$.
- Choice A is correct.** (6.NS.C.8) Translate: $(-4, 6) \rightarrow (-4 + 4, 6 - 3) = (0, 3)$.
- The correct answer is A uses the division method; E verifies the answer..** (6.NS.A.1) A correctly divides: $4 \div \frac{1}{3} = 12$ bottles. E checks: $12 \times \frac{1}{3} = 4$ gallons. B multiplies but gets total juice, not bottle count. C divides backwards. D is conceptually sound but cumbersome.
- Choice B is correct.** (6.SP.B.4) The value 6 has the most dots (5), making it the mode. The other statements are false: only 2 have 4 pencils, and there are 2 with 7 pencils.
- Choice B is correct.** (6.NS.A.1) 12.5% of 320 is $0.125 \times 320 = 40$ families.
- Choice C is correct.** (6.NS.B.3) $-9 + 15 = 6$.
- Choice C is correct.** (6.EE.A.3) Add the temperature change to the initial temperature: $-8 + 22 = 14^\circ \text{ C}$.
- Choice C is correct.** (6.EE.A.2a) "The quotient of y and 4" is $\frac{y}{4}$. "5 more than" that quotient means add 5: $\frac{y}{4} + 5$.
- Choice B is correct.** (6.EE.B.8) "Below 75" means strictly less than, not including 75. The inequality is $T < 75$.
- Choice C is correct.** (6.G.A.3) Side length = 4 units. Perimeter = $4 \times 4 = 16$ units.
- Choice D is correct.** (6.SP.A.2) A statistical question expects different answers from different people (variability) and requires collecting data. The frequency of asking, topic, or tools used are not defining features.



Hi, Strong Climber!

◇ You climbed all 9 tests. One step at a time. That takes patience and grit. The view from the top is amazing because you earned it! ◇

★ **Mountain guides say:** steady steps win the climb. You climbed steady. You stayed strong. ★

Climber's Skills

- **Strong Steps:** You move forward, problem by problem.
- **Steady Pace:** You don't rush. You don't stop.
- **Map Skills:** You read questions carefully.
- **Top of the Mountain:** You can finish a long test.

Guide's tip: on test day, take small breaths between problems. One foot, then the next. You'll reach the top!

If you want to share something or ask a question, please email me at jay@testinar.com.

Jay Daie

Your Math Trail Guide

PRACTICE MORE. ACHIEVE MORE.

This **Grade 6 Math Practice Tests** book is designed to help students strengthen their math skills, master important concepts, and build the confidence they need to excel on any test.

With 9 full-length printed tests and 2 online tests, students get the review, practice, and realistic test experience they need to improve accuracy, develop problem-solving abilities, and reach their full potential.

Perfect for classroom use, homework, test preparation, and extra practice at home.

PERFECT FOR:

- ✓ Classroom Practice
- ✓ Homework & Review
- ✓ Independent Learning
- ✓ Test Preparation
- ✓ Skill Reinforcement
- ✓ Building Confidence

★ PRACTICE TODAY.
SUCCEED TOMORROW.

WHAT STUDENTS WILL GAIN



Stronger Math Skills

Build a solid foundation through targeted practice and review.



Better Problem Solving

Develop logical thinking and effective solution strategies.



Deeper Understanding

Reinforce key math concepts aligned with standards.



Test Confidence

Get familiar with test formats and improve accuracy.



Achieve Success

Build confidence and perform your best on test day.

TOPICS COVERED

- ✓ Ratios & Rates
- ✓ The Number System
- ✓ Expressions & Equations
- ✓ Geometry
- ✓ Fractions & Decimals
- ✓ Percents
- ✓ Statistics & Probability
- ✓ Data Analysis
- ✓ Measurement & Conversions
- ✓ And More!



2 ONLINE TESTS

Extra online practice to reinforce learning and build confidence.

MORE PRACTICE. GREATER RESULTS.

Give your child the tools needed to develop strong math skills, confidence, and a positive attitude toward learning.



9 PRINTED
PRACTICE TESTS



2 ONLINE
PRACTICE TESTS



DETAILED ANSWER
EXPLANATIONS