

10 Vermont VT CAP

GRADE
6
MATH

PRACTICE TESTS

Standards-Aligned Review
Mixed Practice & Answer Key



10 PRINTED TESTS

Realistic practice to build confidence and mastery



2 ONLINE TESTS

Extra practice for continued success



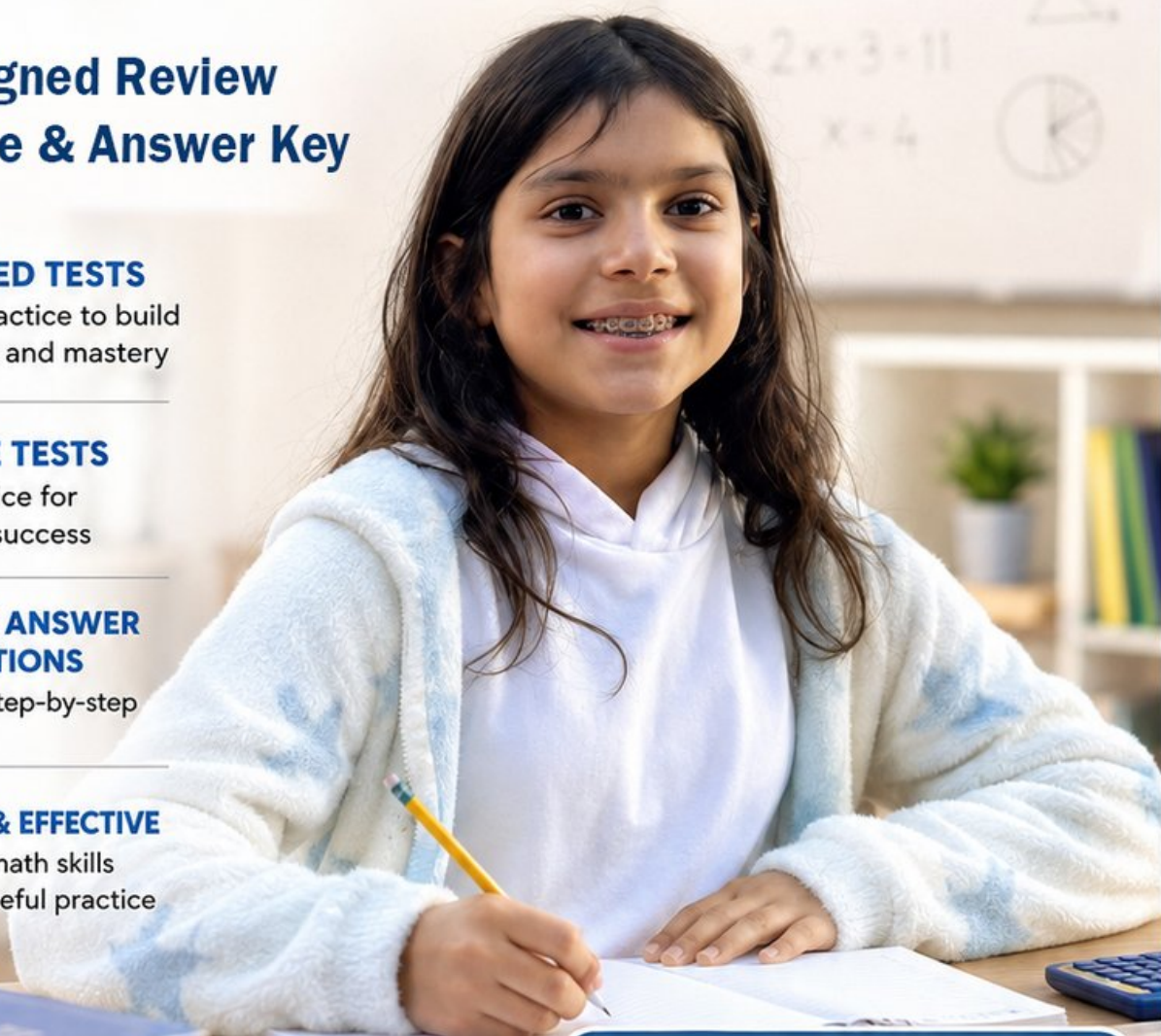
DETAILED ANSWER EXPLANATIONS

Learn with step-by-step solutions



FOCUSED & EFFECTIVE

Target key math skills with purposeful practice



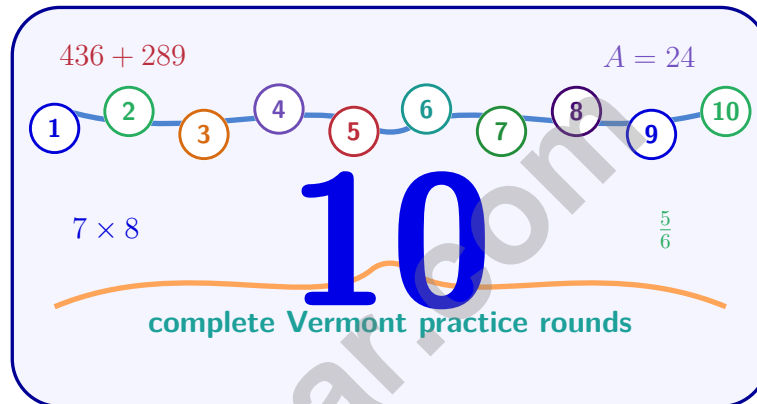
10 PRINTED TESTS
+ 2 ONLINE TESTS

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

PRACTICE • REVIEW • SUCCEED

10 Vermont VTCAP Grade 6 Math Practice Tests

Standards-Aligned Quiet, Careful Reasoning for Vermont Comprehensive Assessment Program



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

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, Vermont Math Explorer!

Ten steady rounds on a Green Mountain practice path

This book gives you ten full Grade 6 practice tests for VTCAP. Each round uses mountain roads, maple seasons, and patient review work 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

Take time to check whether the answer fits the context. I will slow down for the question, circle what matters, solve one step at a time, and use mistakes as clues for getting stronger.

Read

Plan

Check

How to Use This Book

A ten-session routine for quiet, careful reasoning

1. **Preview the skills.** Read the quick review pages before the first test.
2. **Take one test at a time.** Work in a quiet place and answer all 40 questions.
3. **Mark your confidence.** Put a small star beside problems you solved with a strong plan.
4. **Check, then retry.** For missed questions, try the problem again before reading the explanation.
5. **Track your next move.** Use the growth log to name one habit and one skill for the next test.

Vermont review rhythm: Test one day, correct carefully the next day, then return for the next round when your corrections feel clear.



What Is Inside?

Ten VTCAP tests, 400 questions, and a full review path

Part	What You Will Practice
Tests 1–3	Warm-up 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	Stamina rounds for mixed review, neat work, and flexible strategy choices.
Test 10	Final Vermont round to show growth across the whole book.
Answer Pages	Compact keys and explanations that show why each answer works.

The tests are mixed on purpose. Quiet, careful reasoning means recognizing the skill even when the next question changes topic.



Scan me!
For more practice
& answers

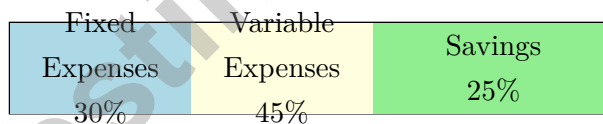
Table of Contents

★ Practice Test 1	_____	14
★ Practice Test 2	_____	29
★ Practice Test 3	_____	44
★ Practice Test 4	_____	60
★ Practice Test 5	_____	75
★ Practice Test 6	_____	91
★ Practice Test 7	_____	108
★ Practice Test 8	_____	123
★ Practice Test 9	_____	139
★ Practice Test 10	_____	154
Practice Test Answer Keys	_____	169
Practice Test Answers and Explanations	_____	175

- 1) A construction crew builds 78 feet of fence in 6 hours. What is the rate in feet per hour?
- A. 12 feet per hour C. 72 feet per hour
- B. 84 feet per hour D. 13 feet per hour
- 2) A science teacher is comparing two chemical solutions. Solution A has a mass of 50 grams and Solution B has a mass of 75 grams. The volumes are 10 mL and 15 mL respectively. Which solution shows a proportional mass-to-volume relationship?

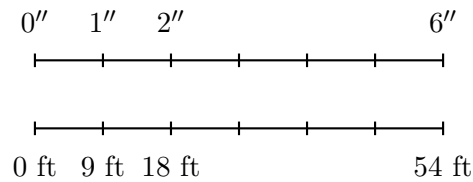
Solution	Mass (g)	Volume (mL)
A	50	10
B	75	15

- A. Only Solution A has a ratio of 5 : 1 C. Both have the same proportional ratio of 5 : 1
- B. Only Solution B has a ratio of 5 : 1 D. Neither; the ratios are different



- 3) Monthly Income = \$1000
- Based on the budget bar above, which category has the highest dollar amount?
- A. Fixed Expenses (\$300) C. Savings (\$250)
- B. All three are equal. D. Variable Expenses (\$450)

- 4) A double number line shows the scale relationship between a drawing and reality.

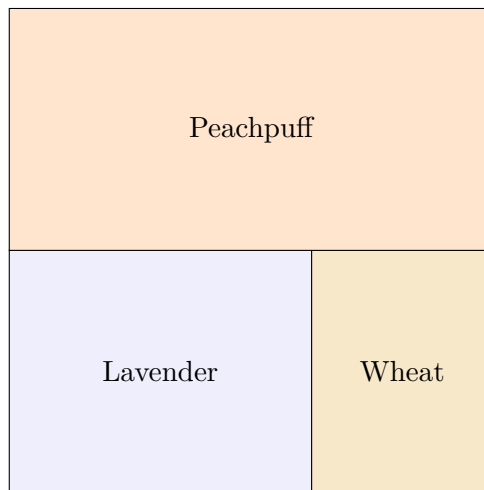


What is the actual length represented by 4'' on the drawing?

- A. 27 feet
- B. 54 feet
- C. 45 feet
- D. 36 feet
- 5) Maria has 30 beads and 45 beads of two different colors. She wants to make identical bracelets with no beads left over. What is the greatest number of bracelets she can make?
- A. 15 bracelets
- B. 10 bracelets
- C. 5 bracelets
- D. 30 bracelets



Scan me!
For more practice
& answers



6)

A square is chosen at random from the grid. What is the probability that it is wheat-colored?

- A. $\frac{3}{32}$
 B. $\frac{3}{16}$

- C. $\frac{3}{8}$
 D. $\frac{1}{2}$

7) Using the push-ups data from Question 11, what is the median number of push-ups?

- A. 34 push-ups
 B. 35 push-ups

- C. 36 push-ups
 D. 37 push-ups

8) A car travels at a rate of 60 miles per hour. If we express the distance-to-time ratio as 60 : 1, how many miles does the car travel in 5 hours?

- A. 55 miles
 B. 65 miles

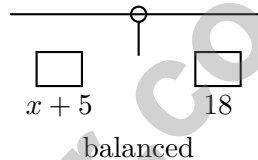
- C. 300 miles
 D. 12 miles



1) Two box plots are shown for Classes A and B. Class A has a median of 78 and IQR of 12. Class B has a median of 82 and IQR of 8. Which class has more consistent scores?

- A. Class B, because it has a smaller IQR. C. Class A, because it has a higher median.
- B. Class A, because it has a larger IQR. D. They are equally consistent.

2) A balance scale shows $x + 5$ on one side and 18 on the other side, and they balance. Which equation describes this?



- A. $x = 5 + 18$ C. $x - 5 = 18$
- B. $5x = 18$ D. $x + 5 = 18$
- 3) A plant must grow to a height of more than 12 inches to be considered mature. Which inequality represents the height h ?
- A. $h \geq 12$ C. $h < 12$
- B. $h \leq 12$ D. $h > 12$
- 4) A rectangular prism has surface area 192 cm^2 . Its length is 10 cm and width is 4 cm. What is its height?

- A. 3 cm C. 5 cm
- B. 4 cm D. 8 cm



Scan me!
For more practice
& answers

5) Which of the following is the correct formula for the area of a circle?

A. $A = \pi d$

C. $A = \pi r^2$

B. $A = 2\pi r$

D. $A = \frac{1}{2}\pi r^2$

6) The table shows quiz scores for 5 students.

Student	A	B	C	D	E
Score	85	90	88	92	85

What is the mean score?

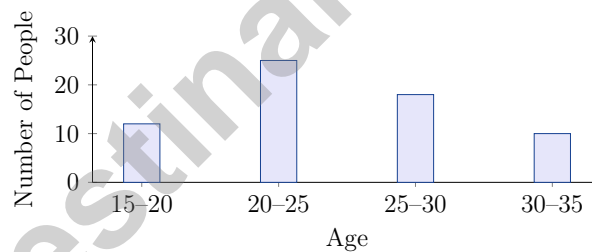
A. 86

C. 88

B. 87

D. 90

7) A histogram displays the ages of people at a concert. The bars show frequencies: Ages 15–20: 12; Ages 20–25: 25; Ages 25–30: 18; Ages 30–35: 10. What is the total number of people at the concert?



A. 55 people

C. 65 people

B. 60 people

D. 70 people



- 1) Write an expression for “the difference of 5 times a number x and 12”.
- A. $5(x - 12)$ C. $12 - 5x$
 B. $5x - 12$ D. $5 - x - 12$
- 2) Which fraction is equivalent to 72%?
- A. $\frac{72}{1000}$ C. $\frac{100}{72}$
 B. $\frac{28}{100}$ D. $\frac{72}{100}$
- 3) A car depreciates in value by 15% each year. If it is worth \$20,000 now, what will it be worth after one year?
- A. \$15,000 C. \$17,000
 B. \$16,000 D. \$18,000
- 4) In a class of 30 students, 18 play soccer. What is the ratio of soccer players to non-soccer players?
- A. 18 : 30 C. 3 : 2
 B. 18 : 12 D. 2 : 3
- 5) A road sign shows the next rest stop is 3 kilometers away. How many meters away is the rest stop?
- A. 300 meters C. 30,000 meters
 B. 0.3 meters D. 3,000 meters



6) Divide: $18.4 \div 4$

A. 4.6

C. 4.06

B. 46

D. 14.4

7) A catering company charges at a constant rate. When 8 people are served, the cost is \$120. If the same ratio is maintained, what is the cost to serve 12 people?

8) What is the prime factorization of 84?

A. $2^2 \times 21$

C. 3×28

B. $2^2 \times 3 \times 7$

D. 4×21

9) Expand $11(2 + 5)$.

A. $22 + 55$

C. $11 + 7$

B. $22 + 5$

D. 77

10) Which integer represents a gain of 18 dollars?

A. -18

C. 0

B. 18

D. -36

11) Find $|0|$.

A. 0

C. 1

B. -1

D. Undefined



Scan me!
For more practice
& answers

Vermont VTCAP Practice Test Answer Keys

How to use this section with a Grade 6 student:

1. check the answer first
2. mark questions to try again
3. rework the problem before reading the full explanation

A calm correction routine turns every missed item into useful practice.

Testinar.com



Scan me!
For more practice
& answers

Practice Test Answers and Explanations

Practice Test 1 Answers and Explanations

- Choice D is correct.** **(6.G.A.4)** Divide feet by hours: $78 \div 6 = 13$ feet per hour.
- Choice C is correct.** **(6.G.A.2)** Solution A: mass/volume = $50/10 = 5$. Solution B: mass/volume = $75/15 = 5$. Both solutions have the same constant ratio of 5 grams per mL.
- Choice D is correct.** **(6.SP.B.4)** Fixed: $30\% \times \$1000 = \300 . Variable: $45\% \times \$1000 = \450 . Savings: $25\% \times \$1000 = \250 . Variable expenses is the largest.
- Choice D is correct.** **(6.SP.B.5)** The pattern shows $1'' = 9$ ft. So $4'' = 4 \times 9 = 36$ ft.
- Choice A is correct.** **(6.RP.A.3)** This is a GCF problem. The GCF of 30 and 45 is 15. So she can make 15 bracelets with 2 beads of one color and 3 of the other in each.
- Choice C is correct.** **(6.NS.B.3)** Total squares = 64. Wheat squares = $3 \times 8 = 24$. Probability = $\frac{24}{64} = \frac{3}{8}$.
- Choice A is correct.** **(6.G.A.1)** In order: 23, 25, 28, 29, 31, 34, 36, 37, 42, 45, 48. With 11 values (an odd count), the median is the middle value at position 6: 34 push-ups.
- Choice C is correct.** **(6.EE.A.3)** The ratio 60 : 1 (miles to hours) means 60 miles per 1 hour. For 5 hours, multiply: $60 \times 5 = 300$ miles.
- Choice A is correct.** **(6.EE.A.2a)** Wins come first, so begin with 8 : 2. Divide both parts by 2 to simplify the ratio to 4 : 1.
- Choice A is correct.** **(6.G.A.3)** Unit price is total cost divided by number of units: $\$12 \div 8 = \1.50 per pound.
- Choice B is correct.** **(6.G.A.1)** The ratio is 2 : 50 or 1 : 25. For 6 oz of chlorine: $6 \times 25 = 150$ gallons.
- Choice D is correct.** **(6.SP.A.2)** For the ratio 5:2, we have sugar = $\frac{2}{5} \times$ flour. Check: (5, 2): $2 = \frac{2}{5}(5)$ ✓; (10, 4): $4 = \frac{2}{5}(10)$ ✓; (15, 6): $6 = \frac{2}{5}(15)$ ✓; (20, 9): $\frac{2}{5}(20) = 8 \neq 9$ ✗. Point D is not on the line.
- Choice C is correct.** **(6.NS.A.1)** $\frac{12}{40} = \frac{3}{10} = \frac{30}{100} = 30\%$ (simplify, then write as a fraction with denominator 100).
- Choice B is correct.** **(6.SP.B.5c)** Store A's discount is $\frac{50-40}{50} = \frac{10}{50} = 20\%$. Store B's discount is $\frac{60-42}{60} = \frac{18}{60} = 30\%$, so Store B offers the larger percent discount.
- Choice B is correct.** **(6.RP.A.1)** Distance = Rate \times Time = $45 \times 3 = 135$ miles.
- Choice C is correct.** **(6.NS.B.4)** Multiply yards by the conversion factor: $7 \times 3 = 21$ feet.
- Choice C is correct.** **(6.EE.A.1)** Total fixed expenses: $\$180 + \$60 + \$60 = \300 . Percentage of income: $\frac{\$300}{\$600} = \frac{1}{2} = 50\%$.
- Choice B is correct.** **(6.EE.A.2b)** $\frac{2}{9} \times \frac{9}{4} = \frac{18}{36} = \frac{1}{2}$.
- Choice A is correct.** **(6.EE.A.2c)** $9,360 \div 48 = 195$. Check: $48 \times 195 = 9,360$.
- Choice A is correct.** **(6.NS.B.2)** Add: $\$5.25 + \$12.99 + \$8.50 = \26.74 . Align decimal points for money.
- The correct answer is 24.** **(6.EE.B.5)** Solving: $84 = \frac{1}{2} \times b \times 7 \Rightarrow b = 24$ m.
- The correct answer is Statements B, C, and E are correct.** **Time is the independent variable (you choose how long to run); the equation is $d = 8t$; and the constant rate is 8 mph.** **(6.EE.B.8)** Correct: B (time is independent—you control it), C (equation $d = 8t$ is correct), and E (the rate is indeed 8 mph). Incorrect: A (distance depends on time), D (reverses the relationship).
- Choice C is correct.** **(6.EE.C.9)** The difference is $5 - (-15) = 5 + 15 = 20$ degrees.
- Choice C is correct.** **(6.G.A.1)** Both $|5| = 5$ and $|-5| = 5$. Numbers equidistant from zero on opposite sides have the same absolute value.
- Choice A is correct.** **(6.SP.A.2)** Point H is located $\frac{2}{3}$ of the way from 1 to 2, which is $1\frac{2}{3}$.
- Choice A is correct.** **(6.RP.A.1)** Points on the y -axis have $x = 0$. For the negative y -axis, the y -coordinate must be negative, so (0, -7) is correct.
- The correct answer is 228.** **(6.SP.B.5c)** $SA = 2(9)(4) + 2(9)(6) + 2(4)(6) = 72 + 108 + 48 = 228$ cm².



Scan me!
For more practice
& answers

Hi, Math Champion!

◇ You trained hard! 10 full practice tests is real practice. Your math game is way better now than when you started. ◇

★ **Coach's truth:** kids who practice get better. You practiced. You got better. That's how it works!
★

Your Game Stats

- **Energy:** HIGH! You can finish a long test.
- **Smart Plays:** You know lots of strategies.
- **Calm Head:** You stay cool with hard problems.
- **Game-Day Ready:** You feel strong and prepared.

Coach's tip: the night before the test, get good sleep. Eat a good breakfast. Bring a sharp pencil. Trust your training!

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

Jay Daie

Your Math Coach

PRACTICE MORE. ACHIEVE MORE. SUCCEED!

This **Grade 6 Math Practice Tests** book is designed to help students build strong math skills, deepen their understanding of key concepts, and gain the confidence they need to succeed on any test.

With 10 full-length printed tests and 2 online tests, students get the review, practice, and realistic test experience they need to improve accuracy, strengthen 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

★ **CONFIDENCE TODAY.
SUCCESS 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.



Deepen 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.



10 PRINTED
PRACTICE TESTS



2 ONLINE
PRACTICE TESTS



DETAILED ANSWER
EXPLANATIONS