

6

Vermont VTCAP

GRADE

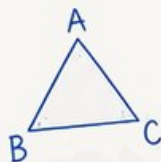
6

MATH

PRACTICE TESTS

Standards-Aligned
Steady Southern
Problem Solving for
Comprehensive
Assessment Program

$$2x + 3 = 11$$



$$7^2 = 49$$

BUILD SKILLS.
GAIN CONFIDENCE.
SUCCEED!



6 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



6 PRINTED TESTS +2 ONLINE TESTS

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



PRACTICE

Sharpen skills with targeted practice tests



REVIEW

Understand concepts and strengthen skills

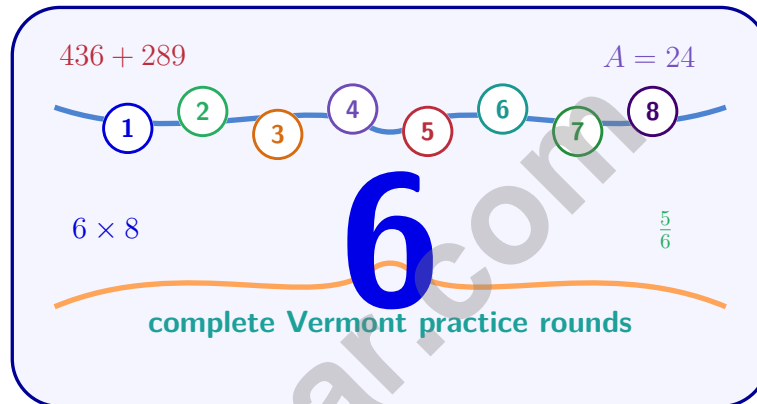


SUCCEED

Build confidence and achieve your best

6 Vermont VTCAP Grade 6 Math Practice Tests

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



Six 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



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!

Eight focused rounds using green-mountain precision

This book gives you six 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 six-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?

Eight VTCAP tests, 320 questions, and a full review path

Part	What You Will Practice
Tests 1–2	Foundation rounds for ratios, rational numbers, operations, and careful reading.
Tests 3–5	Skill-building rounds with expressions, equations, geometry, data, and problem models.
Test 6	Final stamina round 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

Table of Contents

★ Practice Test 1	_____	14
★ Practice Test 2	_____	30
★ Practice Test 3	_____	46
★ Practice Test 4	_____	61
★ Practice Test 5	_____	78
★ Practice Test 6	_____	92
Practice Test Answer Keys	_____	109
Practice Test Answers and Explanations	_____	113

- 1) Two ratio tables are shown. One table maintains an equivalent ratio throughout, but the other does not. Which statement is correct?

Table A

Hours	Miles
2	100
4	200

Table B

Hours	Miles
3	150
6	350

- A. Only Table A maintains an equivalent ratio
 B. Only Table B maintains an equivalent ratio
 C. Both tables maintain equivalent ratios
 D. Neither table maintains an equivalent ratio

2)

Quantity	Cost (\$)
2	14
4	28
6	42
9	y

The table shows a proportional relationship between quantity and cost. What is the value of y ?

- A. 56
 B. 63
 C. 49
 D. 51

3) What is $\frac{3}{4} \div \frac{3}{8}$?

- A. $\frac{9}{32}$
 B. $\frac{24}{32}$
 C. $\frac{1}{2}$
 D. 2



4) What is the prime factorization of 30?

A. $2 \times 3 \times 5$

C. 3×10

B. 2×15

D. $2 \times 2 \times 3$

5) Which statement is true?

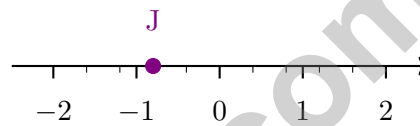
A. $|-7| < |7|$

C. $|-7| > |7|$

B. $|-7|$ is undefined

D. $|-7| = |7|$

6) The number line below shows fractional tick marks between consecutive integers. What is the coordinate of point J?



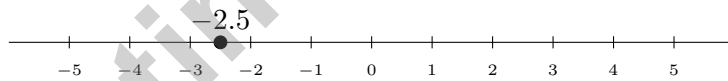
A. $-\frac{4}{5}$

C. $-\frac{1}{5}$

B. $-\frac{3}{5}$

D. $\frac{2}{5}$

7)



Which two integers is -2.5 between?

A. -3 and -2

C. 2 and 3

B. -2 and -1

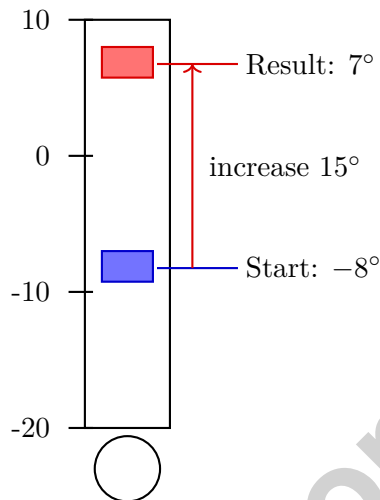
D. -4 and -2

8) After simplifying $6m + 2n - 3m + 4n + m$, what is the coefficient of n ?



Scan me!
For more practice
& answers

9) Which statement correctly translates: “Temperature starts at -8°C and increases by 15°C ”?



A. $-8 + 15 = 7$

C. $8 + 15 = 23$

B. $-8 - 15 = -23$

D. $-8 + (-15) = -23$

10) The table below shows the cost of renting a canoe.

Hours	2	4	6
Cost (\$)	30	60	90

What is the cost per hour to rent the canoe?



1) Find the mean of 20, 30, 40, 50.

A. 30

C. 40

B. 35

D. 45

2) The stem-and-leaf plot below shows the heights (in cm) of students in a class.

Stem	Leaf
14	0, 2, 5
15	1, 4, 8, 9
16	3, 6, 7
17	2, 5

What is the minimum height?

A. 140 cm

C. 145 cm

B. 142 cm

D. 150 cm

3) To make “How old am I?” statistical, should the question ask about one person or a group?

4) A box plot shows the distribution of daily temperatures. The box spans from $Q1 = 68$ to $Q3 = 78$. What is the IQR?

A. 5

C. 15

B. 10

D. 68



1) Which expression is equivalent to $3(2x + 1) + 5x$?

A. $6x + 1 + 5x$

C. $11x + 3$

B. $15x$

D. $6x + 5x + 1$

2) Three coffee shops sell lattes. Compare their unit prices.

Shop	Quantity	Total Cost
Shop A	5 lattes	\$22.50
Shop B	8 lattes	\$32.00
Shop C	6 lattes	\$28.50

Which shop has the lowest unit price per latte?

 A. Shop A at \$4.50/latte C. Shop C at \$4.75/latte B. Shop B at \$4.00/latte D. All three shops have equal pricing

3) A dataset has 8 values with a mean of 45. If 7 of the values are $\{38, 40, 42, 44, 46, 48, 50\}$, what is the eighth value?



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.



Scan me!
For more practice
& answers

Vermont Practice Test Answers and Explanations

Review the six 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) Table A: $2 : 100$ and $4 : 200$ both simplify to $1 : 50$ (equivalent). Table B: $3 : 150$ simplifies to $1 : 50$, but $6 : 350 = 3 : 175 \neq 1 : 50$ (not equivalent). Table B breaks the proportional relationship.
- Choice B is correct.** (6.EE.B.6) The cost per quantity is $14 \div 2 = 7$ per unit. For 9 units: $y = 9 \times 7 = 63$ dollars.
- Choice D is correct.** (6.NS.A.1) $\frac{3}{4} \times \frac{8}{3} = \frac{24}{12} = 2$.
- Choice A is correct.** (6.NS.B.4) $30 = 2 \times 15 = 2 \times 3 \times 5$. The prime factors are 2, 3, 5. Option B uses 15, which is composite; C uses 10, which is composite; D gives prime factorization of 12.
- Choice D is correct.** (6.NS.C.7c) Both $|-7|$ and $|7|$ equal 7, so they are equal.
- Choice A is correct.** (6.NS.C.6c) Point J is located at -0.8 , which equals $-\frac{8}{10} = -\frac{4}{5}$.
- Choice A is correct.** (6.NS.C.7d) $-3 < -2.5 < -2$ on the number line.
- The correct answer is 6.** (6.EE.A.3) Combine n terms: $2n + 4n = 6n$.
- Choice A is correct.** (6.NS.B.3) Increases by means adding. Start at -8 and add 15: $-8 + 15 = 7^\circ\text{C}$.
- The correct answer is 15.** (6.EE.C.9) The cost increases by \$30 for every 2 hours. So the rate is $\frac{\$30}{2 \text{ hours}} = \15 per hour. Check: 2 h at \$15/h costs \$30; 4 h costs \$60; 6 h costs \$90.
- Choice D is correct.** (6.NS.B.3) Three negatives (odd count): $(-1) \times (-1) = 1$ (positive), then $1 \times (-1) = -1$ (negative). An odd number of negatives yields a negative product.
- Choice B is correct.** (6.EE.A.3) Final temperature: $32 + (-5) + (+8) + (-6) = 32 - 5 + 8 - 6 = 29^\circ\text{F}$.
- Choice A is correct.** (6.EE.A.1) $2^3 = 2 \times 2 \times 2 = 8$, and $8 \times 3 = 24$. Option A shows this correctly in expanded form.
- Choice B is correct.** (6.EE.A.2a) "The quotient of 14 and t " is $\frac{14}{t}$. "Decreased by 3" means subtract 3: $\frac{14}{t} - 3$.
- Choice D is correct.** (6.EE.A.2c) Substitute $b = 6$ and $h = 8$: $A = \frac{1}{2}(6)(8) = \frac{48}{2} = 24$ square units.
- Choice A is correct.** (6.EE.B.5) Divide both sides by 6: $x = 36 \div 6 = 6$.
- Choice D is correct.** (6.EE.B.8) "More than 200" means strictly greater: $s > 200$.
- Choice C is correct.** (6.EE.B.8) "Fewer than 10" means strictly less than 10, so $c < 10$.
- Choice D is correct.** (6.G.A.3) Length = 5 units; width = 3 units. Area = $5 \times 3 = 15$ square units.
- Choice D is correct.** (6.G.A.1) Width: $10 - 2 = 8$ units. Height: $6 - 2 = 4$ units. Area = $8 \times 4 = 32$ square units.
- The correct answer is A and C are correct.** (6.RP.A.3) A: $6 \times 3 = 18$ feet (correct). B: $4 \times 3 = 12$ feet, not 10 (incorrect). C: $21 \div 3 = 7$ inches (correct). D: $9 \div 3 = 3$ inches, not 2 (incorrect). E: $5 \times 3 = 15$ feet, not 16 (incorrect).
- Choice D is correct.** (6.G.A.4) Original $SA = 2(7)(6) + 2(7)(2) + 2(6)(2) = 84 + 28 + 24 = 136 \text{ cm}^2$. With height doubled to 4 cm, new $SA = 2(7)(6) + 2(7)(4) + 2(6)(4) = 84 + 56 + 48 = 188 \text{ cm}^2$. The increase is $188 - 136 = 52 \text{ cm}^2$.
- Choice B is correct.** (6.SP.A.2) Upper-half variability is $Q3 - \text{Median}$. Class A: $85 - 80 = 5$. Class B: $88 - 78 = 10$. Class B is more spread.
- Choice C is correct.** (6.SP.B.5c) Mean = $\frac{1.5 + 2.5 + 3.5 + 4.5}{4} = \frac{12}{4} = 3.5$. The dashed line marks the mean.
- The correct answer is 10.** (6.G.A.1) Using $A = \frac{1}{2}bh$: $80 = \frac{1}{2} \times 16 \times h \Rightarrow h = 10 \text{ cm}$.
- Choice D is correct.** (6.SP.B.5c) The median is 20. Excluding the median, the lower half is 12, 15, 18, so $Q1 = 15$. The upper half is 25, 28, 32, so $Q3 = 28$. The IQR is $28 - 15 = 13$.
- Choice C is correct.** (6.RP.A.1) The five-number summary consists of: minimum, $Q1$, median, $Q3$, and maximum. The mean is not included.
- Choice B is correct.** (6.SP.B.5) Sum = $2 + 3 + 4 + 4 + 5 + 5 + 5 + 6 + 7 + 8 = 49$. Mean = $49/10 = 4.9$.



Scan me!
For more practice
& answers

Math Detective at Work

Hi, Math Detective!

◇ You did such a great job! You finished 6 tests like a real detective. You found the clues, used your tools, and solved the math. ◇

★ **Detectives know:** good work takes time. You took your time. You looked carefully. You found the answers! ★

Your Detective Skills

- **Sharp Eyes:** You notice the small details.
- **Smart Plans:** You pick the right way to solve.
- **Brave Heart:** You try even when it's tricky.
- **Steady Work:** You finish what you start.

Detective tip: on test day, look carefully at each problem. Underline important words. Then solve like the detective you are!

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

Jay Daie

Your Math Detective Helper

PRACTICE TODAY. SUCCEED TOMORROW!

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 comprehensive assessments.

With 6 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.

6
PRINTED
TESTS

+
2
ONLINE
TESTS

PERFECT FOR:

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

★ BUILD SKILLS.
GAIN CONFIDENCE.
SUCCEED!

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 concepts aligned with standards through meaningful practice.



Test Confidence

Become familiar with test formats and improve accuracy and speed.



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.



6 FULL-LENGTH
PRINTED TESTS



2 ONLINE
PRACTICE TESTS



DETAILED ANSWER
EXPLANATIONS