4 Tennessee TCAP PRACTICE TESTS

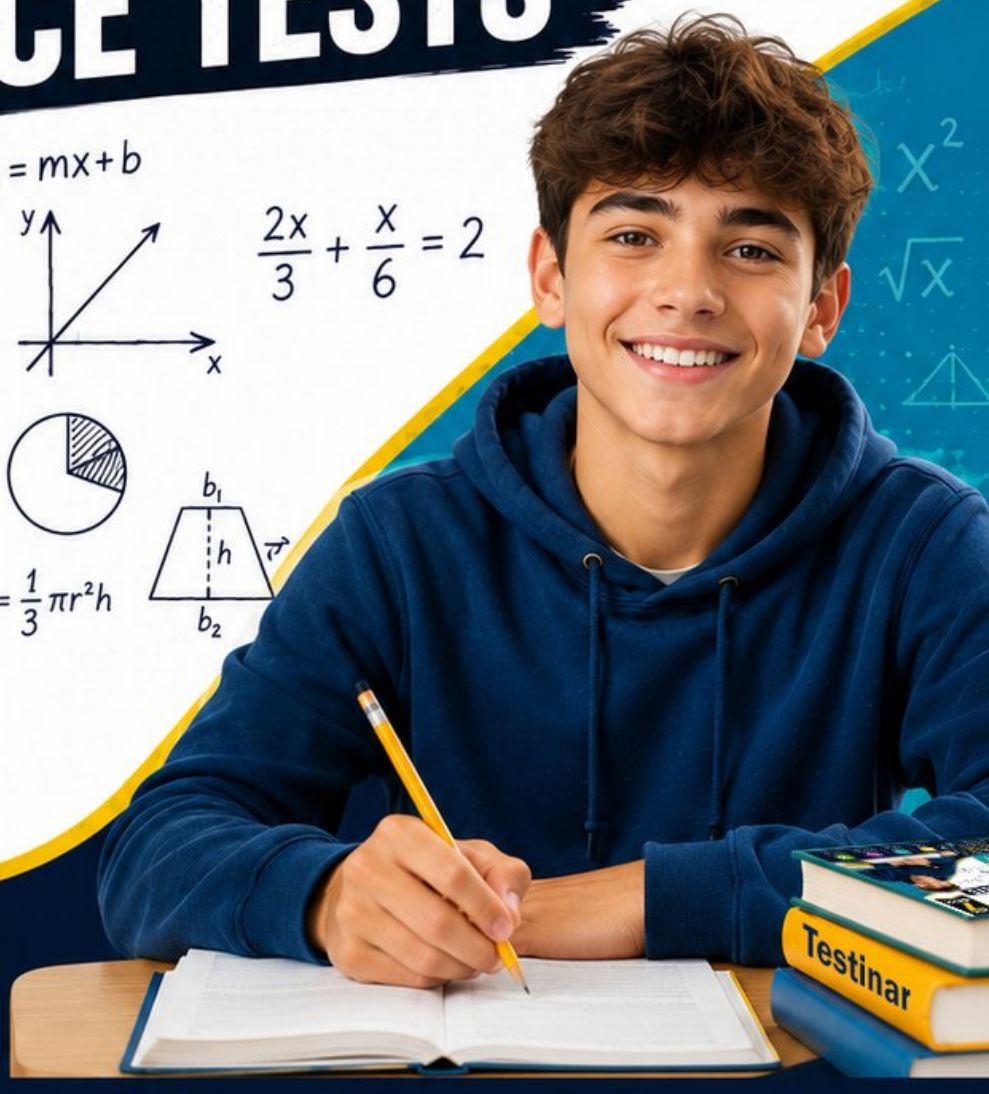
GRADE 7 MATH

Standards Aligned
Problem Solving
For Comprehensive
Assessment Programs

$y = mx + b$

$\frac{2x}{3} + \frac{x}{6} = 2$

$V = \frac{1}{3}\pi r^2 h$



4 PRINTED TESTS

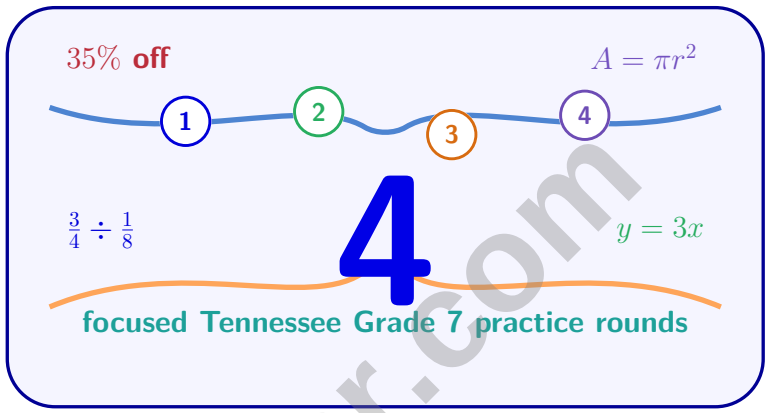
2 ONLINE TESTS

USE THESE TWO **ADDITIONAL ONLINE PRACTICE TESTS** FOR EXTRA REVIEW AFTER THE PRINTED TESTS IN THIS BOOK.

- Build Confidence
- Strengthen Math Skills
- Detailed Answers & Explanations
- Improve Test Performance

4 Tennessee TCAP Grade 7 Math Practice Tests

Four Tennessee Math Tests with Answers, Review, and Explanations



Four complete 40-question Grade 7 TCAP practice rounds with proportional relationships, percents, rational numbers, expressions, equations, geometry, statistics, probability, answer keys, and clear explanations for every item.

Jay Daie and Reza Nazari

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Welcome, Tennessee Grade 7 Problem Solver!

Four focused rounds for sharper TCAP math thinking

This book gives you four full Grade 7 TCAP math practice tests. Each round is built to help you notice structure, compare quantities, use proportional reasoning, handle rational numbers, and explain your thinking with care.

Your Tennessee Practice Promise

I will read every question carefully, choose a strategy that fits, write enough work to prove my answer, and use corrections as training for the next test.

How to Use This Book

A four-session plan for confident Grade 7 review

1. **Warm up with the review pages.** Notice the big ideas before starting the tests.
2. **Complete one test at a time.** Treat each 40-question round like a real practice session.
3. **Show your reasoning.** Jot a proportion, equation, diagram, number line, or quick estimate when it helps.
4. **Correct actively.** Rework missed items before reading the explanation.
5. **Choose the next target.** After each test, name one skill and one habit to improve.

Tennessee review rhythm: Work a test, score it, study your misses, then come back ready for the next round with one clear goal.

What Is Inside?

Four TCAP tests, 160 questions, and a focused review path

Part	What You Will Practice
Tests 1–2	Proportional relationships, unit rates, percents, rational-number operations, and careful reading.
Tests 3–4	Expressions, equations, inequalities, scale drawings, geometry, data, probability, and multi-step problem solving.
Answer Pages	Compact keys and explanations that show why each answer works.

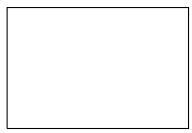
The tests are mixed on purpose. Grade 7 success means recognizing which idea is being tested even when the next question changes format.

Table of Contents

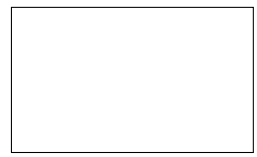
1) A recipe uses 2 cups of flour to make 24 cookies. At the same rate, how many cups of flour are needed to make 60 cookies?

☐ A. 2.5 cups
☐ B. 4 cups
☐ C. 5 cups
☐ D. 8 cups

2)



Rectangle A



Rectangle B

A student claims the two rectangles are similar because the difference in length is 4 inches and the difference in width is 2 inches. Which statement is correct?

☐ A. The rectangles are similar; the student's reasoning is correct.
☐ B. The rectangles are not similar; the student used additive reasoning instead of multiplicative.
☐ C. The rectangles are similar; the scale factor is $\frac{4}{3}$.
☐ D. The student is correct about the relationship but made a calculation error.

3) Two exam score distributions have overlapping ranges but different centers. Which pair of statistics best justifies moving a class to a harder curriculum?

☐ A. Comparing means only
☐ B. Comparing ranges only
☐ C. Comparing medians and MAD
☐ D. Comparing minimums and maximums

4) A diver descends 7.5 meters per minute. What is the total change in depth after 4 minutes?

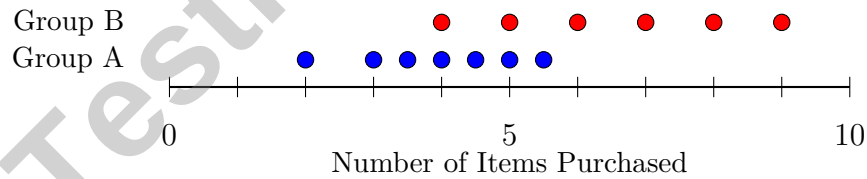
5) A container has 40 items: 16 are red, 14 are blue, and 10 are green. A student calculates $P(\text{red}) = \frac{16}{40}$, then simplifies to $\frac{2}{5}$. Is this correct?

☐ A. No; the correct simplified form is $\frac{1}{5}$.
☐ B. Yes; $\frac{16}{40} = \frac{2}{5}$.
☐ C. No; it should stay as $\frac{16}{40}$.
☐ D. No; the correct form is $\frac{4}{10}$.

6) A number from 1 to 4 is selected, and then a letter from A to C is selected. How many favorable outcomes result in an even number and a vowel (A)?

☐ A. 1
☐ B. 2
☐ C. 3
☐ D. 6

7)



Looking at the dot plots of items purchased, which statement best describes the overlap?

☐ A. Group A typically buys fewer items; Groups overlap at 4–5
☐ B. Group B always buys more items than Group A
☐ C. No overlap exists between the groups
☐ D. Both groups buy identical amounts

8) Two cards are drawn from a standard 52-card deck WITH replacement. What is the probability of drawing a heart on the first draw AND a spade on the second draw?

☐ A. $\frac{1}{16}$
☐ B. $\frac{1}{13}$
☐ C. $\frac{1}{4}$
☐ D. $\frac{1}{8}$

9) A survey asked 180 customers which payment method they prefer:

Method	Credit Card	Debit Card	Cash
Count	85	62	33

What is the experimental probability that a randomly selected customer prefers cash?

☐ A. $\frac{33}{180}$
☐ B. $\frac{33}{62}$
☐ C. $\frac{85}{180}$
☐ D. $\frac{62}{85}$

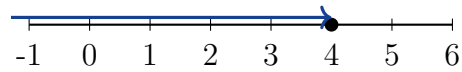
10) The stem-and-leaf plot shows ages at a community event:

Stem	**Leaves**
2	3, 7
3	1, 5, 9
4	0, 4, 6, 8
5	2, 6
6	1, 3, 7, 9

What percentage of attendees are in their 40s?

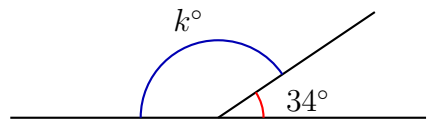
☐ A. 20%
☐ B. 25%
☐ C. 30%
☐ D. 35%

1) Solve $2x - 1 \leq 7$ and select the correct graph.



☐ A. Closed circle at 4 pointing left
☐ B. Open circle at 4 pointing left
☐ C. Closed circle at 4 pointing right
☐ D. Open circle at 4 pointing right

2)



A ray extends upward from a point on a horizontal line, creating angles of 34° and k°. These angles form a linear pair. What is the measure of angle k?

☐ A. 34°
☐ B. 56°
☐ C. 90°
☐ D. 146°

3) A shirt costs $45 before an 8.5% sales tax. What is the final price paid?

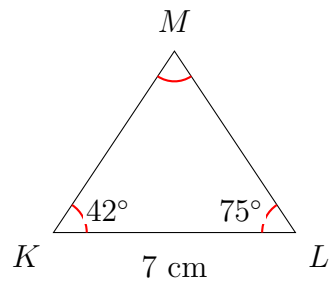
4) What is -4×0.25?

☐ A. -2
☐ B. -1
☐ C. 1
☐ D. 4.25

5) Between which two consecutive integers does $\sqrt{200}$ lie?

☐ A. between 12 and 13
☐ B. between 13 and 14
☐ C. between 14 and 15
☐ D. between 15 and 16

6)



A triangle has two angles of 42° and 75°, and the side between them is 7 cm. How many different (non-congruent) triangles can be formed?

☐ A. 0
☐ B. 1
☐ C. 2
☐ D. Infinitely many

7)

Like Terms Table

x terms	**y** terms
$3x, 5x, -2x$	$4y, y, -3y$

Which expression is equivalent to the combined like terms shown in the table?

☐ A. $6x + 2y$
☐ B. $8x + 5y$
☐ C. $-10xy$
☐ D. $10x + 2y$

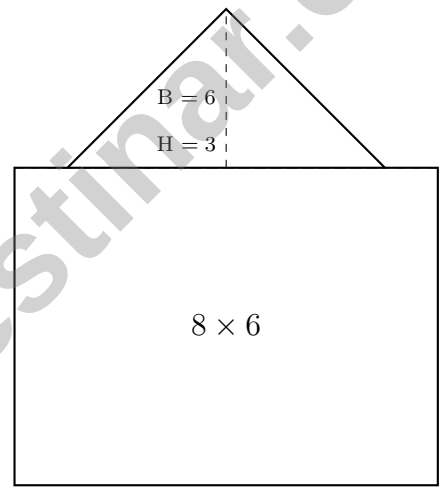
1) A student says the probability of an event is $\frac{2}{3}$ and the probability of its complement is $\frac{1}{3}$. Is this correct?

☐ A. Yes, because $\frac{2}{3} + \frac{1}{3} = 1$
☐ B. No, the complement should be $\frac{1}{2}$
☐ C. No, the complement should be $\frac{3}{3}$
☐ D. Cannot tell without more information

2) Two dot plots show the number of iced beverages sold daily at two coffee shops. Shop X: 40, 42, 42, 44, 44, 44, 46, 48 beverages. Shop Y: 20, 30, 40, 50, 60, 70 beverages. Which shop's daily sales are easier for inventory planning?

☐ A. Shop X (clusters tightly; easier to predict daily demand)
☐ B. Shop Y (wider range allows flexibility)
☐ C. Both shops are identical for planning
☐ D. Shop Y (higher maximum sales)

3)



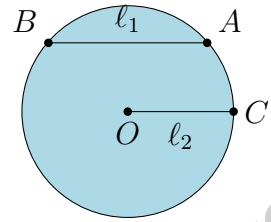
A roof cross-section shape consists of a rectangle (8 cm × 6 cm) and a triangle (6 cm base, 3 cm height). A contractor estimated the triangle height as 4 cm instead. How much area did the contractor overestimate?

☐ A. 1.5 cm^2
☐ B. 3 cm^2
☐ C. 6 cm^2
☐ D. 12 cm^2

4) A rectangular prism has a square base with side length 7 cm and a height of 11 cm. What is the volume?

☐ A. 49 cm^3
☐ B. 77 cm^3
☐ C. 539 cm^3
☐ D. 1,078 cm^3

5) In the circle below, which line segment is a chord?



☐ A. ℓ_1 (segment AB)
☐ B. ℓ_2 (segment OC)
☐ C. Segment OA
☐ D. None of the above

6) A triangle is being constructed with two known angles of 38° and 67°. How many different triangles can be formed by varying the side opposite one of these angles?

☐ A. 0 (impossible)
☐ B. 1 (unique)
☐ C. 2 (two possibilities)
☐ D. Infinitely many

7) Which model correctly shows $5 + (-5) = 0$ using a chip diagram where red = positive and blue = negative?

Model A:

5 red + 2 blue

Model B:

5 red + 5 blue

☐ A. Model A
☐ B. Both models show the same thing
☐ C. Neither model
☐ D. Model B

Tennessee TCAP Grade 7 Practice Test Answer Keys

How to use this section with a Grade 7 student:

1. check the answer first and circle any item that needs another look
2. retry the problem with fresh work before reading the explanation
3. write one short lesson learned from each missed or guessed item

A strong review routine turns every correction into a sharper plan for the next Tennessee TCAP practice test.

Practice Test Answers and Explanations

Practice Test 1 Answers and Explanations

1) **Choice C is correct.** 7.RP.1-7.RP.3 Set up the proportion $\frac{2}{24} = \frac{x}{60}$. Cross multiply: $24x = 120$, so $x = 5$ cups.
2) **Choice B is correct.** 7.G.1-7.G.5 Rectangle A: $\frac{9}{6} = \frac{3}{2} = 1.5$. Rectangle B: $\frac{13}{8} = 1.625$. Since $1.5 \neq 1.625$, the rectangles are NOT similar. The student's error is using additive differences (4 inches, 2 inches) instead of checking if the ratios of corresponding sides are equal.
3) **Choice C is correct.** 7.SP.1-7.SP.4 Medians show typical performance (center). MAD shows consistency. Together, they reveal whether the entire class has shifted up (higher median) with stable performance (stable MAD), justifying curriculum advancement.
4) **The correct answer is** -30 **.** 7.NS.2 Change per minute is -7.5 meters. After 4 minutes: $(-7.5) \times 4 = -30$ meters.
5) **Choice B is correct.** 7.SP.5-7.SP.8 $\frac{16}{40} = \frac{2}{5}$ is correct. GCD(16,40)=8, so $\frac{16}{40} = \frac{2}{5}$.
6) **Choice B is correct.** 7.SP.5-7.SP.8 Even numbers: 2, 4. Vowel: A. Favorable outcomes: 2A, 4A. That is 2 favorable outcomes.
7) **Choice A is correct.** 7.SP.3 Group A centers at 3–5 (peak at 4). Group B centers at 5–9 (peak at 7). Overlap occurs at 4–5. Group A's lower center is clear despite overlap.
8) **Choice A is correct.** 7.SP.5-7.SP.8 With replacement: $P(\text{heart}) \cdot P(\text{spade}) = \frac{1}{4} \cdot \frac{1}{4} = \frac{1}{16}$.
9) **Choice A is correct.** 7.SP.6 The relative frequency of cash preference is $\frac{\text{cash count}}{\text{total surveyed}} = \frac{33}{180} \approx 0.183$.
10) **Choice B is correct.** 7.SP.1-7.SP.4 Total: $2+3+4+2+4 = 15$ people. In 40s: 4 people. Percent: $4/15 \approx 0.267 \approx 25\%$ (closest).
11) **Choice B is correct.** 7.G.4-7.G.6 Square: $8 \times 8 = 64$ m^2. Triangle: $\frac{1}{2} \times 8 \times 3 = 12$ m^2. Total: $64 + 12 = 76$ m^2.
12) **Choice B is correct.** 7.G.4-7.G.6 $h = \frac{V}{B} = \frac{576}{72} = 8$ ft.
13) **Choice A is correct.** 7.G.4-7.G.6 $r = \frac{d}{2} = \frac{13.4}{2} = 6.7$ mm.
14) **Choice B is correct.** 7.G.1-7.G.5 Two sides have the same length: $OM = MN = 5$ cm. An isosceles triangle has at least two congruent sides. Checking: $4^2 + 5^2 = 41 \neq 25$, so it is not a right triangle.
15) **Choice A is correct.** 7.SP.5-7.SP.8 A standard die has faces 1–6 only. Rolling a 7 is impossible, not merely unlikely. Probability = 0, not 0.1.
16) **The correct answer is** 13 **.** 7.NS.1-7.NS.3 Since the area is 169, the side length is $\sqrt{169} = 13$ units.
17) **The correct answer is** 70 **.** 7.G.1-7.G.5 Sum of angles in a triangle is $180°$. Third angle $= 180° - 35° - 75° = 70°$.
18) **Choice C is correct.** 7.SP.1-7.SP.4 $\frac{35}{105} = \frac{x}{3150}$. Reduce: $\frac{1}{3} = \frac{x}{3150} \Rightarrow x = 1050$.
19) **The correct answer is B,D.** 7.NS.1-7.NS.3 B: $-33 + 33 = 0$ (opposites sum to zero). D: $-100 + 100 = 0$ (opposites sum to zero). A: $20 + (-10) = 10$ (not zero). C: $14 + (-7) = 7$ (not zero).
20) **Choice C is correct.** 7.NS.1-7.NS.3 $-4 - 2 = -4 + (-2) = -6$. Moving left 2 units from -4 gives -6.
21) **Choice D is correct.** 7.RP.1-7.RP.3 Actual dimensions: $8 \times 2.5 = 20$ m; $6 \times 2.5 = 15$ m. Area $= 20 \times 15 = 300$ m^2.
22) **Choice C is correct.** 7.RP.3 18% of 500 is $0.18 \times 500 = 90$ items.
23) **Choice C is correct.** 7.SP.1-7.SP.4 38% of $200 = 0.38 \times 200 = 76$ employees.
24) **Choice D is correct.** 7.RP.1-7.RP.3 Each worker: $\frac{2/3}{3} = \frac{2}{3} \times \frac{1}{3} = \frac{2}{9}$ of the project.
25) **Choice D is correct.** 7.RP.1-7.RP.3 Slope: $(9-3)/(3-1) = 6/2 = 3$. Line is $y = 3x$, which passes through $(0, 0)$ (proportional).
26) **Choice D is correct.** 7.RP.1-7.RP.3 Unit rate is $(1, 0.35)$, so $k = 0.35$ kg per tablet. For 8 tablets: $8 \times 0.35 = 2.8$ kg.
27) **Choice B is correct.** 7.RP.1-7.RP.3 Table B has constant ratio: $\frac{6}{2} = 3$, $\frac{12}{4} = 3$, $\frac{18}{6} = 3$. Table A is not proportional ($\frac{3}{1} = 3$ but $\frac{7}{3} \neq 3$).
28) **Choice D is correct.** 7.RP.3 The discount is $\frac{20}{100} \times 50 = 10$, so you save \$10.
29) **Choice A is correct.** 7.SP.5-7.SP.8 Since probabilities for all outcomes must sum to 1, and there are only two outcomes, $P(\text{Tails}) = 1 - 0.6 = 0.4$.

Hi, Detail Champion!

◇ In Grade 7, small details can change an entire answer: a negative sign, a decimal place, a unit, an exponent, or an inequality symbol. ◇

⋆ **Remember this:** You practiced noticing those details. That is a serious test skill, and it gets better with every careful review. This version gave you 4 opportunities to rehearse test-day habits. ⋆

Detail Checks

- **Signs:** Circle negatives before simplifying.
- **Symbols:** Read inequality signs carefully.
- **Decimals:** Line up place values.
- **Units:** Match the unit the question asks for.

Grade 7 test-day tip: Use the final minute on each section for a detail scan, not a full redo.

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

Jay Daie

Your Detail-Check Coach

PRACTICE TODAY. SUCCEED TOMORROW!

This book includes 4 full-length Math practice tests and 2 online tests to help Grade 7 students build confidence, strengthen skills, and excel on standardized assessments.

Each practice test is carefully crafted to reflect the latest standards and includes a variety of question types, realistic test conditions, and detailed answer explanations.

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

THIS BOOK INCLUDES:

- 4 Full-Length Printed Tests
- 2 Online Practice Tests
- Detailed Answers & Explanations

MORE PRACTICE. GREATER RESULTS.

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

WHAT YOU'LL GAIN

Build Confidence
Practice regularly to feel prepared and test-ready.

Strengthen Math Skills
Develop key math concepts and problem solving abilities.

Improve Understanding
Learn with clear explanations and step-by-step solutions.

Test Confidence
Familiarize with test formats and improve accuracy and speed.

Boost Performance
Apply your knowledge and achieve your best score!

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- Ratios & Proportions
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- Data Analysis
- Measurement & Conversions
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