

3

Tennessee TCAP

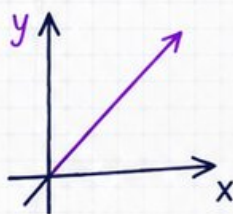
GRADE

7

MATH

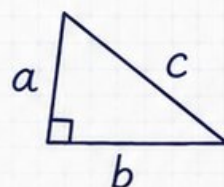
PRACTICE TESTS

- ✓ Standards Aligned
Problem Solving
For Comprehensive
Assessment Programs



$$y = mx + b$$

$$\frac{2}{3}x - \frac{4}{5} = \frac{1}{2}$$



$$3(x - 2) = 2x + 5$$



3 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



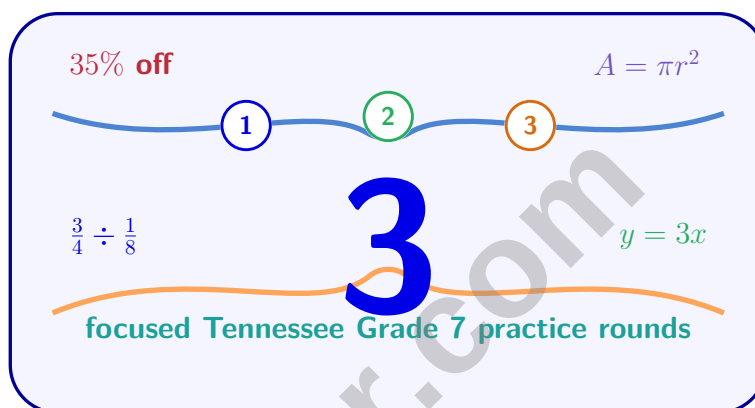
Detailed Answers
& Explanations



Improve Test
Performance

3 Tennessee TCAP Grade 7 Math Practice Tests

Tennessee Practice Tests with Focused Review and Full Keys



Three 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!

Three focused rounds for sharper TCAP math thinking

This book gives you three 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.

Read

Model

Verify

How to Use This Book

A three-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?

Three TCAP tests, 120 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.
Test 3	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.

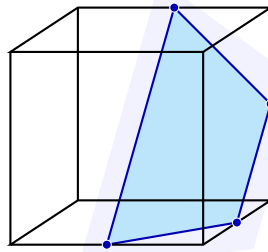
The tests are mixed on purpose. Grade 7 success means recognizing which idea is being tested even when the next question changes format.



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& answers

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1)

A cube is sliced by a plane passing through the midpoints of four edges, forming a square cross-section. If the cube's edge is 6 cm, what is the side length of the square cross-section?

☐ A. 3 cm

☐ C. 4.5 cm

☐ B. $3\sqrt{2}$ cm

☐ D. 6 cm

2) A gardener estimated needing 15 gallons of water but used 18 gallons. What is the percent error?

☐ A. 20%

☐ C. 18%

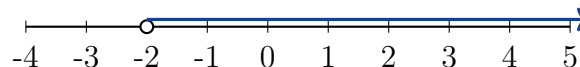
☐ B. 83.3%

☐ D. 16.7%

3) Expand and simplify: $3(x + 2) + 2(x - 1)$

☐ A. $5x + 4$
☐ C. $5x + 1$
☐ B. $5x + 6$
☐ D. $6x + 4$

4) What is the inequality shown on this number line?


☐ A. $x \geq -2$
☐ C. $x < -2$
☐ B. $x > -2$
☐ D. $x \leq -2$

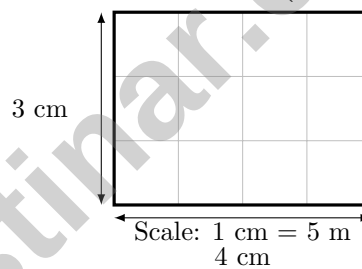

5) If you double the principal but keep the rate and time the same, by how much does the simple interest increase?

- ☐ A. The interest stays the same ☐ C. The interest is cut in half
☐ B. The interest triples ☐ D. The interest doubles

6) A simulation estimates the probability of an event to be 0.40 based on 250 trials. In another simulation with the same event and 1000 trials, the estimated probability is 0.38. Which statement is true?

- ☐ A. The first simulation is more accurate ☐ C. Both simulations must have made errors
☐ B. The second simulation is more reliable because it uses more trials ☐ D. The true probability is exactly 0.39

Room Floor Plan (scale model)



7)

According to the scale, what are the actual dimensions of this rectangular room?

- ☐ A. 10 m $\times$ 20 m ☐ C. 12 m $\times$ 15 m
☐ B. 4 m $\times$ 3 m ☐ D. 20 m $\times$ 15 m



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8) A recipe calls for 2 cups of flour. If you make 150% of the recipe, how much flour do you need?

☐ A. 2.5 cups

☐ C. 3.5 cups

☐ B. 4 cups

☐ D. 3 cups

9) A pair of shoes costs \$60. If a store marks up the wholesale cost by 50%, what is the selling price?

☐ A. \$110

☐ C. \$30

☐ B. \$40

☐ D. \$90

10) What is $-11 + 14$?

☐ A. 25

☐ C. -3

☐ B. -25

☐ D. 3

Step 1: $4x + 3y + 2x - y$



Group x terms Group y terms

Step 2: $(4 + 2)x + (3 - 1)y$



Step 3: $6x + 2y$

11)

Based on the steps shown, what is the error in this simplification?

☐ A. Step 3 has the wrong final answer. ☐ D. No error; the simplification is

☐ B. Step 1 grouped terms incorrectly. correct.

☐ C. Step 2 added the wrong coefficients.



1) Simplify: $-3(x + 2) - 2x$.

☐ A. $-3x - 6 - 2x = -5x - 6$

☐ C. $x - 6$

☐ B. $-5x - 2$

☐ D. $-5x + 6$

2) Solve: $\frac{x}{6} + 1 = 3$

☐ A. $x = 4$

☐ C. $x = 18$

☐ B. $x = 12$

☐ D. $x = 24$

3) What is the solution to $\frac{3}{4}x = 12$? Use a reciprocal to solve and verify.

☐ A. $x = 9$

☐ C. $x = 16$

☐ B. $x = 12$

☐ D. $x = 36$

4) A model train is built using a scale of 1 : 120. If the model is 15 cm long, how long is the real train in meters?

☐ A. 1.8 m

☐ C. 18 m

☐ B. 6 m

☐ D. 180 m

5) If angle x and angle y are complementary, and $x = 37^\circ$, what is y ?

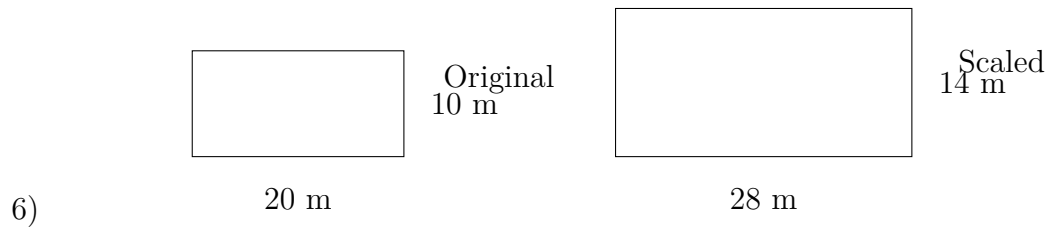
☐ A. 53°

☐ C. 37°

☐ B. 43°

☐ D. 143°





The two rectangles are similar. What is the scale factor from the original to the scaled rectangle?

- ☐ A. 0.71 ☐ C. 1.5
- ☐ B. 1.4 ☐ D. 2.8
- 7) A cylinder has a radius of 2.5 m and a volume of 78.5 m^3 . What is the height? Use $\pi \approx 3.14$.
- ☐ A. 2 m ☐ C. 6 m
- ☐ B. 4 m ☐ D. 8 m
- 8) A coach asks, “How typical is the temperature variation during our outdoor practices?” Which statistic best answers this?
- ☐ A. Median ☐ C. MAD or IQR
- ☐ B. Mode ☐ D. Minimum temperature
- 9) A box contains tiles labeled with numbers 2, 4, 6, 8, 10, 12, 14, 16. A tile is drawn at random. What is the probability of drawing a number greater than 8?
- ☐ A. $\frac{1}{2}$ ☐ C. $\frac{3}{8}$
- ☐ B. $\frac{5}{8}$ ☐ D. $\frac{1}{4}$



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- 1) A cylinder has a surface area formula $SA = 2\pi r^2 + 2\pi rh$. This can also be written as:

- ☐ A. $SA = 2\pi r(r + h)$
☐ C. $SA = 2\pi(r^2 + h^2)$
☐ B. $SA = \pi r(r + h)$
☐ D. $SA = \pi r(2r + h)$

- 2) A spinner has 4 equal sections labeled 1, 2, 3, 4. Which statement is FALSE for this uniform probability model?

- ☐ A. $P(1) = \frac{1}{4}$
☐ C. $P(\text{greater than } 2) = \frac{1}{2}$
☐ B. $P(\text{odd}) = \frac{1}{2}$
☐ D. $P(5) = \frac{1}{4}$

- 3) A credit card company charges a \$95 annual fee. After 2 years, how much has the cardholder paid in fees?

- ☐ A. \$95
 ☐ C. \$285
☐ B. \$380
 ☐ D. \$190

- 4) A bank statement shows the following transactions in one week:

Transaction	Amount
Starting balance	\$2 500
Debit card purchase	−\$45
Direct deposit (paycheck)	+\$800
ATM withdrawal	−\$100

What is the ending balance?

- ☐ A. \$2 145
 ☐ C. \$3 155
☐ B. \$2 255
 ☐ D. \$3 255



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5) Which scenario shows the most total interest earned over 3 years with compound interest?

☐ A. \$2,000 at 4%

☐ C. \$2,500 at 3%

☐ B. \$1,000 at 8%

☐ D. \$1,500 at 6%

6) An item originally marked at \$80 is reduced to \$60. What is the percent decrease?

☐ A. 20%

☐ C. 30%

☐ B. 33%

☐ D. 25%

7) A book is marked down by 30% from its original price of \$25. What is the discount amount?

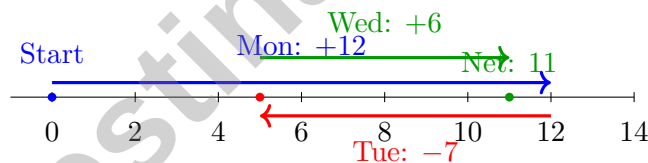
☐ A. \$22.50

☐ C. \$15

☐ B. \$17.50

☐ D. \$7.50

8) A warehouse inventory shows: gained 12 boxes Monday, lost 7 boxes Tuesday, gained 6 boxes Wednesday. What is the net change?



☐ A. -25 boxes

☐ C. 11 boxes

☐ B. -11 boxes

☐ D. 25 boxes

9) Simplify: $10p - 5p + 3p - 2p$

☐ A. $6p$

☐ C. $16p$

☐ B. $20p$

☐ D. $4p$



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.

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Practice Test Answers and Explanations

Practice Test 1 Answers and Explanations

- 1) **Choice B is correct.** (7.G.1-7.G.5) The side length of the square cross-section is half the length of a face diagonal. Since a face diagonal of a cube with edge length a is $a\sqrt{2}$, the side length is $\frac{a\sqrt{2}}{2}$. For $a = 6$, $\frac{6\sqrt{2}}{2} = 3\sqrt{2}$ cm.
- 2) **Choice D is correct.** (7.RP.3) Percent error = $\frac{|15-18|}{18} \times 100\% = \frac{3}{18} \times 100\% \approx 16.7\%$.
- 3) **Choice A is correct.** (7.EE.1-7.EE.2) Expand: $3x + 6 + 2x - 2 = 5x + 4$. Combine like terms.
- 4) **Choice B is correct.** (7.EE.4b) An open circle at -2 with a right-pointing arrow shows $x > -2$.
- 5) **Choice D is correct.** (7.RP.3) Simple interest is directly proportional to principal: $I = Prt$. If P doubles, I doubles.
- 6) **Choice B is correct.** (7.SP.5-7.SP.8) Larger samples provide more stable estimates due to the Law of Large Numbers.
- 7) **Choice D is correct.** (7.RP.1-7.RP.3) Using the scale $1 \text{ cm} = 5 \text{ m}$: width is $4 \times 5 = 20 \text{ m}$; height is $3 \times 5 = 15 \text{ m}$.
- 8) **Choice D is correct.** (7.RP.3) 150% of 2 is $1.50 \times 2 = 3$ cups.
- 9) **Choice D is correct.** (7.RP.3) Markup amount = $0.50 \times 60 = \$30$. Selling price = $60 + 30 = \$90$.
- 10) **Choice D is correct.** (7.NS.1b) Subtract absolute values: $|14| - |-11| = 14 - 11 = 3$. Since $14 > |-11|$ and 14 is positive, the answer is 3 .
- 11) **Choice D is correct.** (7.EE.1) Step 1 correctly identifies the original expression. Step 2 correctly groups and adds: $(4 + 2) = 6$ and $(3 - 1) = 2$. Step 3 correctly shows the simplified form: $6x + 2y$.
- 12) **The correct answer is -17 .** (7.NS.1-7.NS.3) The new balance is $-5 - 12 = -17$. You now owe 17 dollars.
- 13) **Choice A is correct.** (7.EE.1-7.EE.2) Factor out -10 : $-10x - 20 = -10(x + 2)$. Check: $-10(x + 2) = -10x - 20$.
- 14) **Choice D is correct.** (7.G.4-7.G.6) $SA = 6s^2 = 6(7)^2 = 6(49) = 294 \text{ ft}^2$.
- 15) **Choice D is correct.** (7.RP.1-7.RP.3) The point $(1, 0.4)$ is the unit-rate point, so the constant of proportionality is $k = 0.4$. Therefore, the equation is $y = 0.4x$. (Verify: $(5, 2)$ gives $2 = 0.4 \times 5$ ✓)
- 16) **Choice D is correct.** (7.EE.1-7.EE.2) Substitute: $2(4)^2 + 3 = 2(16) + 3 = 32 + 3 = 35$.
- 17) **Choice B is correct.** (7.EE.1-7.EE.2) $2^5 = 2 \cdot 2 \cdot 2 \cdot 2 \cdot 2 = 32$. You can also recognize that $32 = 2^5$.
- 18) **Choice B is correct.** (7.EE.4a) Distribute: $9x + 18 = 63$. Subtract 18 : $9x = 45$. Divide by 9 : $x = 5$.
- 19) **The correct answer is A, C.** (7.SP.1-7.SP.4) Bread: $0.35 \times 400 = 140$ items, so A is correct. Pastries and cakes together make 200 items, not 50 , so B is false. Other: $0.15 \times 400 = 60$ items, so C is correct. Pastries (28%) plus other (15%) equals 43% , not 45% .
- 20) **Choice B is correct.** (7.EE.4b) Distribute: $2x - 6 \leq 10$. Add 6 : $2x \leq 16$. Divide by 2 : $x \leq 8$.
- 21) **Choice D is correct.** (7.G.1-7.G.5) Actual dimensions: $7.5 \times 8 = 60 \text{ ft}$ and $10 \times 8 = 80 \text{ ft}$; area: $60 \times 80 = 4,800 \text{ ft}^2$.
- 22) **Choice B is correct.** (7.G.1-7.G.5) Reflection over the x -axis uses the rule $(x, y) \rightarrow (x, -y)$. The x -coordinate stays the same, and the y -coordinate changes sign: $(-4, 3) \rightarrow (-4, -3)$.
- 23) **Choice C is correct.** (7.G.4-7.G.6) $C = 2\pi r = 2 \times 3.14 \times 2 = 12.56 \text{ cm}$ per rotation. Distance = $10 \times 12.56 = 125.6 \text{ cm}$.
- 24) **The correct answer is $\frac{35}{24}$.** (7.RP.1-7.RP.3) $\frac{7}{8} \div \frac{5}{3} = \frac{7}{8} \times \frac{3}{5} = \frac{35}{24}$.
- 25) **Choice B is correct.** (7.G.4-7.G.6) To cover the ground, the gardener needs the area. The circumference is for the fence.
- 26) **Choice A is correct.** (7.SP.1-7.SP.4) Surveying only customers at one store at one time is a convenience sample because it only includes people who are easy to reach, not a random selection of all teenagers in the city.
- 27) **Choice A is correct.** (7.SP.1-7.SP.4) In a stem-and-leaf plot, stem 8 with leaves $0, 2, 5, 7, 9$ represents $80, 82, 85, 87, 89$.
- 28) **Choice D is correct.** (7.RP.1-7.RP.3) Proportional relationships have the form $y = kx$ with no constant term. The equation $C = 2.50n + 5.99$ has a nonzero initial value, $\$5.99$, so it does not pass through the origin and is not proportional.
- 29) **Choice D is correct.** (7.RP.3) Discount: $\frac{15}{100} \times 120 = 18$. Sale price: $120 - 18 = \$102$.
- 30) **Choice C is correct.** (7.RP.3) Available = $\$3,600 - \$1,200 - \$400 - \$300 - \$200 = \$1,500$.



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Hi, Persistent Problem Solver!

◇ Some Grade 7 questions ask you to hold several ideas in your mind at once. That can feel hard, and that is exactly why practice matters. ◇

★ **Remember this:** You showed persistence by continuing through the set. That habit is powerful because difficult problems often open after one more good attempt. You practiced across 3 full Grade 7 practice tests, and that repeated effort matters. ★

Persistence Tools

- **Try a Smaller Case:** Use an easier number to see the pattern.
- **Draw It:** Make the situation visible.
- **Restate It:** Say the question in your own words.
- **Check One Step:** Fix the first unclear place.

Grade 7 test-day tip: When stuck, do not restart everything. Find the first step you trust, then rebuild from there.

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

Jay Daie

Your Persistence Coach

PRACTICE TODAY. SUCCEED TOMORROW!

This book includes **3** 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:

3 Full-Length
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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



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Practice regularly to feel prepared and test-ready.



Strengthen Math Skills

Develop key math concepts and problem solving abilities.



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Learn from clear explanations and step-by-step solutions.



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Apply your knowledge and achieve your best score!

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



2 ONLINE TESTS

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



2 EXTRA ONLINE TEST ACCESS CODE IS INSIDE THE BOOK!

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