

7 Tennessee TCAP

Grade 7 Math Practice Tests



ONLINE

7 PRINTED TESTS + 2 ONLINE TESTS

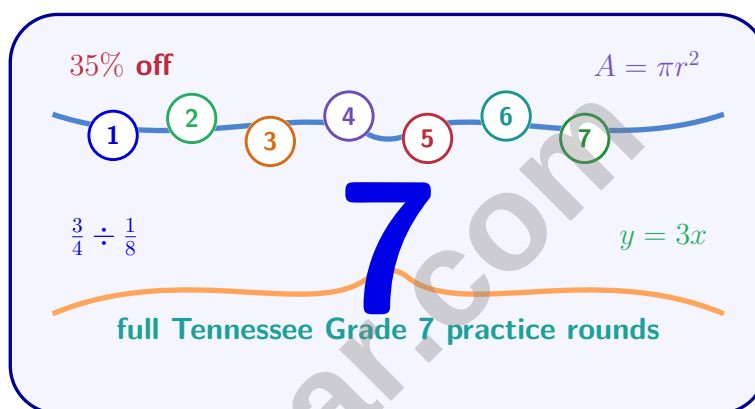


**Standards Aligned Problem Solving
For Comprehensive Assessment Programs**



8 Tennessee TCAP Grade 7 Math Practice Tests

A precision review of Tennessee Grade 7 proportions, expressions, geometric reasoning, statistics, experimental probability, and simulations



Eight 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!

Eight focused rounds for sharper TCAP math thinking

This book gives you seven 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

An eight-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?

Eight TCAP tests, 280 questions, and a complete review path

Part	What You Will Practice
Tests 1–3	Proportional relationships, unit rates, percents, rational-number operations, and careful reading.
Tests 4–6	Expressions, equations, inequalities, scale drawings, geometry, and multi-step problem solving.
Tests 7–8	Statistics, probability, mixed review, stamina, and choosing efficient strategies.
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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1) A circle graph shows how a family spends its monthly budget. Rent is 30%, food is 25%, utilities is 15%, and savings is 30%. Which categories tie for the largest sector?

☐ A. Food and Utilities

☐ C. Rent and Savings

☐ B. Utilities and Savings

☐ D. Food and Rent

2) Which solution is correct for $3x + 6 = 15$?

☐ A. $x = 1$

☐ C. $x = 5$

☐ B. $x = 3$

☐ D. $x = 7$

3) Arrange these products from smallest to largest: $(-3) \times 4$, $(-2) \times (-5)$, 1×6 , $(-4) \times (-2)$.

☐ A. $(-3) \times 4$, $(-2) \times (-5)$, 1×6 , $(-4) \times (-2)$

☐ C. $(-2) \times (-5)$, $(-4) \times (-2)$, 1×6 , $(-3) \times 4$

☐ B. $(-3) \times 4$, 1×6 , $(-2) \times (-5)$, $(-4) \times (-2)$

☐ D. $(-3) \times 4$, $(-2) \times (-5)$, $(-4) \times (-2)$, 1×6

4) An employee incorrectly calculated a 15% tip on a \$80 bill as \$15 instead of the correct amount. What is the error?

☐ A. The calculation is correct

☐ C. \$15.00 too high

☐ B. \$3.00 too low

☐ D. \$3.00 too high



- 5) A young person invests \$400 at 3% annual compound interest and leaves it untouched for 5 years. Approximately how much will the account contain?

Year	Balance
0	\$400.00
1	\$412.00
2	\$424.36
3	\$437.09
4	\$450.21
5	\$463.72

- ☐ A. \$460 ☐ C. \$485
☐ B. \$520 ☐ D. \$463
- 6) A triangle has one side of length 11 cm. If the other two sides each have length x cm, for which values of x can a valid triangle be formed?
- ☐ A. Any positive value of x ☐ C. $5.5 < x$
☐ B. $0 < x \leq 11$ ☐ D. $x \geq 11$
- 7) A car travels at a constant speed passing through the origin and the point (2, 140) on a distance-time graph (where x = hours and y = miles). What is the unit rate in miles per hour?



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8) A spinner is spun 60 times, and section A appears 18 times. What is the experimental probability of landing on section A?

☐ A. 0.20

☐ C. 0.30

☐ B. 0.25

☐ D. 0.35

9) On a number line, you start at 4 and move 11 units left. Where do you land?

☐ A. -15

☐ C. 7

☐ B. 15

☐ D. -7

10) A poster is enlarged to 1.5 times its original size. If the original poster was 20 inches by 30 inches, what is the new area in square inches?



11) Evaluate $2x + 3y - z$ when $x = 5$, $y = 1$, and $z = 2$.

☐ A. 9

☐ C. 13

☐ B. 11

☐ D. 15

12) Simplify: $9x^2 + 3x^2 + 2x - 4x$

☐ A. $12x^2 - 2x$

☐ C. $11x^2 - x$

☐ B. $12x^3 - 2x$

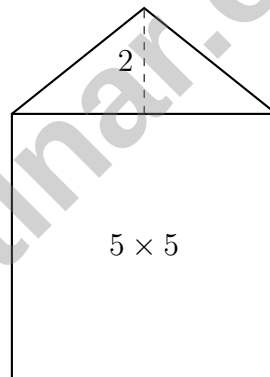
☐ D. $12x^2 + 2x$



- 1) Two box plots compare the number of hours worked per week by employees at two stores. Store 1: $Q1 = 30$, Median = 35, $Q3 = 40$. Store 2: $Q1 = 25$, Median = 35, $Q3 = 45$. Which statement correctly compares the two stores?

- ☐ A. Store 2 has a larger spread in the upper half ☐ C. Both stores have the same work hour distribution
- ☐ B. Store 1 employees work more hours ☐ D. Store 1 has more variability overall

- 2) A family's monthly expenses total \$2,500. If their monthly income is \$3,000, what percentage of their income do they spend?



3)

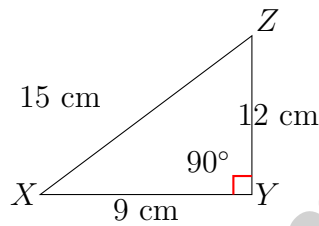
A decorative tile is a square ($5 \text{ cm} \times 5 \text{ cm}$) with an isosceles triangle attached to the top (base 5 cm, height 2 cm). What is the total area?

- ☐ A. 10 cm^2 ☐ C. 30 cm^2
- ☐ B. 25 cm^2 ☐ D. 35 cm^2



- 4) A trapezoidal prism has a trapezoidal base with parallel sides 4 cm and 6 cm and a height of 3 cm (height of the trapezoid). The depth of the prism is 10 cm. What is the volume? (Area of trapezoid = $\frac{1}{2}(b_1 + b_2) \times h$)

- ☐ A. 60 cm³ ☐ C. 150 cm³
☐ B. 75 cm³ ☐ D. 300 cm³

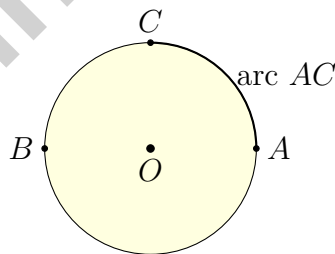


5)

A triangle has sides 9 cm, 12 cm, and 15 cm. Is this a right triangle?

- ☐ A. Yes ☐ C. Cannot be determined
☐ B. No ☐ D. Only if one angle is 90°

- 6) In the circle below, which of the following is an arc?



- ☐ A. The segment OA ☐ C. The chord AC
☐ B. The curve from A to C ☐ D. The point O



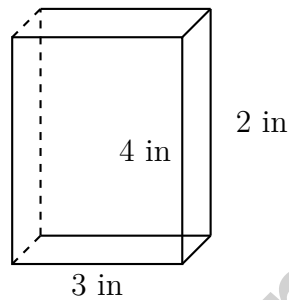
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- 1) A teenager receives \$100 for their birthday and must decide: buy a video game (entertainment/want) for \$100 or save the money for college (future need) with 3% annual interest. If they save, approximately how much will the money grow to in 10 years (simple interest)?
- ☐ A. \$103 ☐ C. \$130
☐ B. \$115 ☐ D. \$150
- 2) A bike shop charges \$25 to rent a bike per day. Write the equation for total cost T as a function of days d .
- ☐ A. $d = 25T$ ☐ C. $T = \frac{25}{d}$
☐ B. $T = d + 25$ ☐ D. $T = 25d$
- 3) A restaurant's revenue last month was \$5000. This month it increased by 15%. What was the revenue this month?
- ☐ A. \$750 ☐ C. \$5750
☐ B. \$4250 ☐ D. \$6000
- 4) A debit card withdraws money directly from your bank account. A credit card lets you borrow money and pay it back later. Which statement best describes a disadvantage of using a credit card?
- ☐ A. You can spend more money than you have in your account ☐ C. You may pay interest if you do not pay the full balance
☐ B. You build a credit history over time ☐ D. You do not have to carry cash



- 5) A camera's price decreased by \$120, representing a 15% discount. What was the original price?

- ☐ A. \$1 200 ☐ C. \$520
☐ B. \$720 ☐ D. \$800

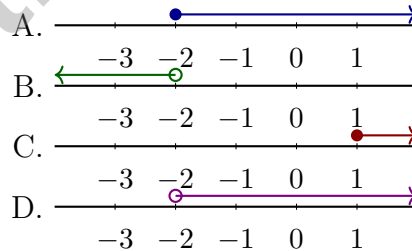


6)

The rectangular prism shown has dimensions 3 in $\times$ 2 in $\times$ 4 in. What is its surface area?

- ☐ A. 32 in² ☐ C. 64 in²
☐ B. 52 in² ☐ D. 96 in²

- 7) Which number line represents $x < -2$?



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Tennessee Comprehensive Assessment Program 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 Comprehensive Assessment Program practice test.



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Practice Test Answers and Explanations

Practice Test 1 Answers and Explanations

- 1) **Choice C is correct.** (7.SP.1-7.SP.4) Rent and Savings are both 30%, the largest percentage. Food is 25% and utilities is 15%.
- 2) **Choice B is correct.** (7.EE.3-7.EE.4) Subtract 6: $3x = 9$. Divide by 3: $x = 3$.
- 3) **Choice A is correct.** (7.NS.2) Products are: $(-3) \times 4 = -12$, $(-2) \times (-5) = 10$, $1 \times 6 = 6$, $(-4) \times (-2) = 8$. From smallest to largest: $-12, 6, 8, 10$, so answer is A.
- 4) **Choice D is correct.** (7.RP.3) Correct tip = $0.15 \times 80 = \$12$. Error = $15 - 12 = \$3.00$ (too high).
- 5) **Choice D is correct.** (7.RP.3) $A = 400(1.03)^5 = 400 \times 1.1593 = 463.72 \approx 463$.
- 6) **Choice C is correct.** (7.G.1-7.G.5) Triangle Inequality requires: $x + x > 11$, so $x > 5.5$. The other conditions $11 + x > x$ and $x + 11 > x$ are always true. There is no upper bound on x from the Triangle Inequality.
- 7) **The correct answer is 70.** (7.RP.1-7.RP.3) The unit rate is $140 \div 2 = 70$ miles per hour. This is the car's constant speed.
- 8) **Choice C is correct.** (7.SP.5-7.SP.8) Relative frequency = $\frac{18}{60} = 0.30$.
- 9) **Choice D is correct.** (7.NS.1b) Moving left on a number line means adding a negative: $4 + (-11) = -7$. You land at -7 .
- 10) **The correct answer is 1350.** (7.RP.1-7.RP.3) New dimensions: $20 \times 1.5 = 30$ inches and $30 \times 1.5 = 45$ inches. New area = $30 \times 45 = 1350$ sq in.
- 11) **Choice B is correct.** (7.EE.1-7.EE.2) Substitute: $2(5) + 3(1) - 2 = 10 + 3 - 2 = 11$.
- 12) **Choice A is correct.** (7.EE.1) Combine x^2 terms and x terms: $(9 + 3)x^2 + (2 - 4)x = 12x^2 - 2x$.
- 13) **Choice B is correct.** (7.EE.1-7.EE.2) Check: A is not complete (can factor further as $8(x + 2)$). B is complete (GCF of 6 and 9 is 3). C is not standard (uses decimals). D is not complete (can factor further as $4(3p + 2)$).
- 14) **Choice A is correct.** (7.G.4-7.G.6) From the net, dimensions are 6 m $\times$ 4 m $\times$ 5 m. $SA = 2(6 \cdot 4 + 6 \cdot 5 + 4 \cdot 5) = 2(24 + 30 + 20) = 2(74) = 148 \text{ m}^2$.
- 15) **Choice B is correct.** (7.NS.2d) Divide $2 \div 7 = 0.285714285714 \dots$. The full repeating block is 285714, same as $\frac{1}{7}$ but shifted.
- 16) **Choice A is correct.** (7.NS.1-7.NS.3) Temperature change = $-1.12 \times 10 = -11.2^\circ\text{C}$. Final temperature = $25 - 11.2 = 13.8^\circ\text{C}$.
- 17) **The correct answer is \$51.** (7.RP.3) Discount amount = $0.32 \times 75 = \$24$. Sale price = $75 - 24 = \$51$.
- 18) **Choice A is correct.** (7.EE.1-7.EE.2) Quotient rule: $\frac{b^8}{b^3} = b^{8-3} = b^5$.
- 19) **Choice A is correct.** (7.EE.4a) Distribute: $-6x - 2 = 10$. Add 2: $-6x = 12$. Divide by -6 : $x = -2$.
- 20) **Choice A is correct.** (7.EE.3-7.EE.4) Correct: Add 5: $0.2x = 8$. Divide: $x = 40$. Common error: dividing immediately $x = \frac{3}{0.2} = 15$ (wrong).
- 21) **The correct answer is A,D.** (7.RP.1-7.RP.3) A and D are true. Relationship A ($y = 4x$) is proportional and has y -intercept 0. Relationship B has constant term 2, so it is not proportional and has y -intercept 2.
- 22) **Choice C is correct.** (7.EE.4b) The swimmer must make up a 4 kg deficit at 0.5 kg/week: $0.5w \geq 4$. Divide by 0.5: $w \geq 8$ weeks.
- 23) **Choice A is correct.** (7.G.1-7.G.5) Original drawing: 9 cm $\times$ 12 cm, perimeter = $2(9 + 12) = 42$ cm. New drawing: 18 cm $\times$ 24 cm, perimeter = $2(18 + 24) = 84$ cm. Ratio: $84/42 = 2$ times.
- 24) **Choice B is correct.** (7.G.1-7.G.5) Any vertical plane perpendicular to the base of a rectangular prism intersects the solid in a rectangular cross-section (width is one base dimension, height is the prism height).
- 25) **Choice B is correct.** (7.G.4-7.G.6) Fencing needed = $C = 2\pi r = 2 \times 3.14 \times 2.5 = 15.7$ m.
- 26) **Choice B is correct.** (7.G.4-7.G.6) Circle: $r = 7$, $A = \frac{22}{7} \times 49 = 154 \text{ in}^2$. Square: $A = 14^2 = 196 \text{ in}^2$. Square is larger.
- 27) **Choice C is correct.** (7.G.4-7.G.6) Lateral area = $2\pi rh \approx 2 \times 3.14 \times 2.5 \times 8 = 125.6 \text{ m}^2$.
- 28) **Choice C is correct.** (7.SP.1-7.SP.4) A sample of 300 from 12,000 is approximately 2.5% of the population and is large enough to provide reliable results. Samples of 20 and 50 are too small and may not represent the full diversity of students. A sample of 2000 would give similar reliability but is unnecessary.



You Know More Than You Think

Hi, Skilled Learner!

◇ After working through Grade 7 practice, you now have more tools than you may realize: models, formulas, graphs, equations, and reasoning habits. ◇

★ **Remember this:** The next step is learning when to use each tool. That comes from practice, review, and the courage to try a method even when you are unsure. This version gave you 7 opportunities to rehearse test-day habits. ★

Tools You Can Use

- **Models:** Make relationships visible.
- **Equations:** Represent unknowns clearly.
- **Graphs:** Show change and location.
- **Formulas:** Organize measurement problems.

Grade 7 test-day tip: Before solving, name the tool you plan to use. That small choice makes your work more intentional.

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

Jay Daie

Your Skill-Building Coach

Practice Today. Succeed Tomorrow!

This book includes **7** 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.

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Better Problem Solving

Develop logical thinking and effective solution strategies.



Deeper Understanding

Reinforce key concepts with clear explanations and meaningful practice.



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Familiarize with test formats and improve accuracy and speed.



Achieve Success

Build confidence and perform your best on test day.

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



2 ONLINE TESTS

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