

7

Arizona
AASA

Grade 7 Math Practice Tests



ONLINE

7 PRINTED TESTS + 2 ONLINE TESTS



Standards Aligned Problem Solving
For Comprehensive Assessment Programs



8 Arizona AASA Grade 7 Math Practice Tests

Fresh practice in Arizona Grade 7 proportional reasoning, expressions, rational numbers, geometry, and data displays



Eight complete 40-question Grade 7 AASA 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, Arizona Grade 7 Problem Solver!

Eight focused rounds for sharper AASA math thinking

This book gives you seven full Grade 7 AASA 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 Arizona 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.

Arizona 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 AASA 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) Simplify: $(h^2)^3 \cdot h^4$

☐ A. h^9

☐ C. h^{24}

☐ B. h^{10}

☐ D. h^8

2) Which of the following is closest to $\sqrt{240}$?

☐ A. 14

☐ C. 16

☐ B. 15

☐ D. 17

3) A freelance designer charges clients a 15% design fee on top of materials costs. If materials cost \$200, what is the total cost to the client?

☐ A. \$215

☐ C. \$245

☐ B. \$260

☐ D. \$230

4) Complete the sign rule: When you multiply a negative number by a negative number, the product is _____.

☐ A. negative

☐ C. zero

☐ B. positive

☐ D. undefined

5) What is the opposite of 0?

☐ A. -1

☐ C. 0

☐ B. 1

☐ D. Undefined

6) Which pair of principal-rate-time combinations will produce the same simple interest of \$300?

☐ A. $P = \$1000, r = 6\%, t = 5$ years

☐ C. $P = \$1500, r = 8\%, t = 2$ years

AND $P = \$1500, r = 4\%, t = 5$ years

AND $P = \$1600, r = 7.5\%, t = 2$

☐ B. $P = \$2000, r = 5\%, t = 3$ years

years

AND $P = \$1000, r = 10\%, t = 3$ years

☐ D. $P = \$5000, r = 3\%, t = 2$ years

AND $P = \$2500, r = 6\%, t = 2$ years



- 7) Miguel owed his friend \$18 (debt = -18). His friend forgave \$10 of the debt. How much does Miguel still owe? (Model his remaining debt.)
- ☐ A. $-\$28$ ☐ C. $\$8$
☐ B. $\$28$ ☐ D. $-\$8$
- 8) Simplify: $8a + 5b - 3a - 2b$
- ☐ A. $5a + 3b$ ☐ C. $5a + 7b$
☐ B. $11a + 3b$ ☐ D. $16ab$
- 9) Factor: $-6x - 9$
- ☐ A. $-3(2x + 3)$ ☐ C. $-3(2x - 3)$
☐ B. $3(-2x - 3)$ ☐ D. $6(-x - 1.5)$
- 10) A rectangular prism has surface area 250 cm^2 . If length = 10 cm and width = 5 cm, what is the height?
- ☐ A. 5 cm ☐ C. 7.5 cm
☐ B. 10 cm ☐ D. 12.5 cm
- 11) To design a simulation for the probability that a student passes a course (estimated at 75%), which spinner is most appropriate?
- ☐ A. A spinner with 2 equal sections ☐ C. A spinner with 4 equal sections, 3 shaded
☐ B. A spinner with 3 equal sections, one shaded ☐ D. A spinner with 4 equal sections, 1 shaded



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- 12) A store applies a markup of \$50 to an item costing \$200. What is the percent markup?
- ☐ A. 20% ☐ C. 10%
- ☐ B. 50% ☐ D. 25%
- 13) Evaluate $2x^2 + 3$ when $x = 4$.
- ☐ A. 19 ☐ C. 44
- ☐ B. 32 ☐ D. 35
- 14) A lawn-care service charges \$35 for the first yard and \$25 for each additional yard. If someone pays \$110, which equation finds y , the total number of yards mowed?
- ☐ A. $25y + 35 = 110$ ☐ C. $25(y - 1) + 35 = 110$
- ☐ B. $35y + 25 = 110$ ☐ D. $25y + 35y = 110$
- 15) Which solution is correct for $3x + 6 = 15$?
- ☐ A. $x = 1$ ☐ C. $x = 5$
- ☐ B. $x = 3$ ☐ D. $x = 7$
- 16) For the inequality $x - 4 \geq 3$, which value is **not** a solution?
- ☐ A. $x = 7$ ☐ C. $x = 6$
- ☐ B. $x = 10$ ☐ D. $x = 100$
- 17) A school gymnasium is drawn at 9 cm by 15 cm on a blueprint with scale 1 cm : 4 m. The drawing is redone at scale 1 cm : 2 m. How many centimeters long is the gym on the new blueprint?
- ☐ A. 7.5 cm ☐ C. 30 cm
- ☐ B. 15 cm ☐ D. 60 cm



1) What is $\sqrt{225}$?

☐ A. 13

☐ C. 15

☐ B. 14

☐ D. 16

2) An electronics store marks up a TV by 25%. If the cost is c dollars, which expression shows the selling price?

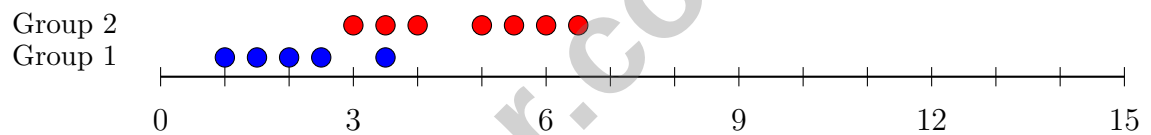
☐ A. $c + 0.25c = 1.25c$

☐ C. $0.25c$

☐ B. $c - 0.25c$

☐ D. $c \div 1.25$

3) The dot plots below show the number of text messages sent by two groups of students during a school day.



Which group has a higher center (median)?

☐ A. Group 1

☐ D. Cannot be determined from the plot

☐ B. Group 2

☐ C. Both groups have the same median

4) A banner is shaped like a rectangle (18 inches $\times$ 10 inches) with a semicircle ($r = 5$ inches) attached to the top. What is the total area? (Use $\pi \approx 3.14$.)

☐ A. 139.25 in^2

☐ C. 205.5 in^2

☐ B. 180 in^2

☐ D. 219.25 in^2



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5) A rectangular prism has dimensions 5 m, 4 m, and 8 m. What is its volume?

☐ A. 320 m^3

☐ C. 40 m^3

☐ B. 160 m^3

☐ D. 17 m^3

6) A sector of a circle is best described as:

☐ A. A line through the circle

☐ C. A chord and an arc

☐ B. A pie-shaped region bounded by two radii and an arc

☐ D. Half of a circle

7) Identify the unlike terms in this expression: $4a + 3b + 2a + 5c$

☐ A. $4a$ and $2a$

☐ C. $4a$ and $3b$

☐ B. $3b$ and $5c$

☐ D. $2a$ and $5c$

8) What is the GCF of $6xy$ and $9y$?

☐ A. $3y$

☐ C. $9y$

☐ B. $6y$

☐ D. $3xy$



- 1) The radius of a red blood cell is 2.75×10^{-6} cm. What is this in standard form?
- ☐ A. 0.00000275 cm ☐ C. 2,750,000 cm
☐ B. 0.000000275 cm ☐ D. 27,500,000 cm
- 2) A retailer marks items up by 45% from their cost of \$60. What is the selling price?
- ☐ A. \$105 ☐ C. \$33
☐ B. \$270 ☐ D. \$87

55%



Total

- 3) If the whole bar represents 200, how much does the shaded part represent?
- ☐ A. 55 ☐ C. 110
☐ B. 90 ☐ D. 145
- 4) The value of a car decreased from \$24 000 to \$18 000. What is the percent decrease?
- ☐ A. 33% ☐ C. 16.7%
☐ B. 20% ☐ D. 25%
- 5) Simplify $\frac{1}{4}m + \frac{3}{4}m + 2n$, then evaluate when $m = 2$ and $n = 3$.

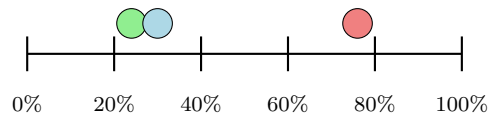


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- 6) A triangular prism has a right triangular base with legs 6 in and 8 in (hypotenuse 10 in). The prism is 12 in long. What is the surface area?

- ☐ A. 216 in² ☐ C. 336 in²
☐ B. 288 in² ☐ D. 420 in²

Estimated Probabilities

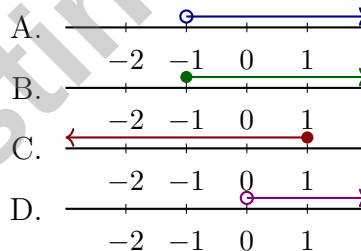


7)

Three simulation estimates are plotted on the number line: 0.24 (green), 0.38 (blue), and 0.76 (red). If the true theoretical probability is 0.25, which estimate has the smallest error?

- ☐ A. Green at 0.24 ☐ C. Red at 0.76
☐ B. Blue at 0.38 ☐ D. All three have equal error

- 8) Which number line represents $x \geq -1$?



- 9) A rectangular parking space at a lot is 2.5 m by 5 m. A scale drawing is made with 1 cm : 1 m. What is the area of the drawing in square centimeters?

- ☐ A. 12.5 cm² ☐ C. 25 cm²
☐ B. 2.5 cm² ☐ D. 50 cm²



Arizona's Academic Standards Assessment 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 Arizona's Academic Standards Assessment practice test.



Practice Test Answers and Explanations

Practice Test 1 Answers and Explanations

- 1) **Choice B is correct.** (7.EE.1-7.EE.2) First apply power rule: $(h^2)^3 = h^{2 \times 3} = h^6$. Then apply product rule: $h^6 \cdot h^4 = h^{6+4} = h^{10}$.
- 2) **Choice B is correct.** (7.NS.1-7.NS.3) $15^2 = 225$ and $16^2 = 256$. Since 240 is closer to 225 than to 256, $\sqrt{240} \approx 15.5$, closest to 15.
- 3) **Choice D is correct.** (7.RP.3) Design fee = $0.15 \times 200 = \$30$. Total = $200 + 30 = \$230$.
- 4) **Choice B is correct.** (7.NS.2) Negative times negative always yields a positive product.
- 5) **Choice C is correct.** (7.NS.1-7.NS.3) Zero is its own opposite. The opposite of 0 is 0, since $0 = -0$.
- 6) **Choice D is correct.** (7.RP.3) Check D: First gives $I = 5000(0.03)(2) = \$300$. Second gives $I = 2500(0.06)(2) = \$300$. Both equal \$300.
- 7) **Choice D is correct.** (7.NS.1b) Miguel's debt decreases by \$10, so: $-18 + 10 = -8$. He still owes \$8 (represented as -8 in debt model).
- 8) **Choice A is correct.** (7.EE.1) Combine like terms: $(8a - 3a) + (5b - 2b) = 5a + 3b$.
- 9) **Choice A is correct.** (7.EE.1-7.EE.2) GCF is 3. Factor out the negative: $-6x - 9 = -3(2x + 3)$. Check: $-3(2x + 3) = -6x - 9$.
- 10) **Choice A is correct.** (7.G.4-7.G.6) $SA = 2(lw + lh + wh) = 250$. $2(50 + 10h + 5h) = 250 \Rightarrow 50 + 15h = 125 \Rightarrow 15h = 75 \Rightarrow h = 5$ cm.
- 11) **Choice C is correct.** (7.SP.5-7.SP.8) $75\% = \frac{3}{4}$. A spinner with 4 equal sections where 3 are shaded represents this probability.
- 12) **Choice D is correct.** (7.RP.3) Percent markup = $\frac{50}{200} \times 100 = 25\%$.
- 13) **Choice D is correct.** (7.EE.1-7.EE.2) Substitute: $2(4)^2 + 3 = 2(16) + 3 = 32 + 3 = 35$.
- 14) **Choice C is correct.** (7.EE.4a) First yard is \$35, then \$25 per additional yard. For y total yards: $35 + 25(y - 1) = 110$.
- 15) **Choice B is correct.** (7.EE.3-7.EE.4) Subtract 6: $3x = 9$. Divide by 3: $x = 3$.
- 16) **Choice C is correct.** (7.EE.4b) Check $x = 6$: $6 - 4 = 2 \not\geq 3$. The other values give 3, 6, and 96, all ≥ 3 .
- 17) **Choice C is correct.** (7.G.1-7.G.5) Halving the real scale (4 m to 2 m) doubles the drawing: $15 \times 2 = 30$ cm.
- 18) **Choice A is correct.** (7.G.1-7.G.5) A horizontal plane cutting through a frustum produces a circular cross-section. The radius of this circle is between the radii of the upper and lower bases.
- 19) **The correct answer is 13.** (7.NS.1-7.NS.3) If the difference is $4 - x = -9$, then $x = 4 - (-9) = 4 + 9 = 13$. Check: $4 - 13 = -9$ ✓.
- 20) **The correct answer is A, C.** (7.RP.1-7.RP.3) True: A ($4 \times 6 = 24$ feet) and C ($2 \times 6 = 12$ feet; $2.5 \times 6 = 15$ feet). False: B (area scales by $6^2 = 36$, not 6); D (area: $900 \div 36 = 25$ sq in, not 36); E (areas are reduced by $\frac{1}{36}$ on the plan, not $\frac{1}{6}$).
- 21) **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.
- 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 A is correct.** (7.G.4-7.G.6) $C = 2\pi r \Rightarrow 6.28 = 2 \times 3.14 \times r \Rightarrow 6.28 = 6.28r \Rightarrow r = 1$ cm.
- 24) **Choice C is correct.** (7.G.4-7.G.6) $A = \pi r^2 = 3.14 \times 9^2 = 3.14 \times 81 = 254.34$ ft².
- 25) **Choice B is correct.** (7.SP.1-7.SP.4) Patients at a heart disease clinic have higher cholesterol by definition. This sampling method systematically selects people with elevated cholesterol, making them unrepresentative of all city adults. This bias in WHO is selected is selection bias.
- 26) **Choice B is correct.** (7.SP.1-7.SP.4) Range only tells the difference between max and min. IQR and MAD show how data is distributed within that range, distinguishing clustered from spread-out data with the same range.
- 27) **Choice C is correct.** (7.SP.1-7.SP.4) The mode (12 messages, appearing 3 times) best represents what students "typically" sent because it identifies the most common value. The mean is inflated by 25 outliers, and the median (12.5) is between two values.
- 28) **Choice C is correct.** (7.RP.3) Wants = $30\% \times \$2,400 = 0.30 \times 2400 = \720 .



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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 7 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 **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.

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



THIS BOOK INCLUDES:

7 Full-Length Printed Tests

2 Online Practice Tests

 Detailed Answer Explanations



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

WHAT YOU'LL 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 with clear explanations and meaningful practice.



Test Confidence

Familiarize with test formats and improve accuracy and speed.



Achieve Success

Build confidence and perform your best on test day.

TOPICS COVERED

- ✓ Ratios & Proportions
- ✓ 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!

Don't lose it—your extra practice and success start here!



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