

9

Alaska AK STAR

GRADE

6

MATH

PRACTICE TESTS

Standards-Aligned Review
Mixed Practice & Answer Key



9 PRINTED TESTS

Realistic practice to build confidence and mastery



DETAILED ANSWER EXPLANATIONS

Learn with step-by-step solutions



FOCUSED & EFFECTIVE

Target key math skills with purposeful practice



BUILD CONFIDENCE

Strengthen problem solving and test-taking skills



9 PRINTED TESTS
+2 ONLINE TESTS

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

PRACTICE TODAY.
SUCCEED TOMORROW.



PRACTICE



REVIEW



SUCCEED

9 Alaska AK STAR Grade 6 Math Practice Tests

Standards-Aligned Calm Explorer Thinking for Alaska System of Academic Readiness

$436 + 289$ $A = 24$

1 2 3 4 5 6 7 8 9

7×8 $\frac{5}{6}$

9

complete Alaska practice rounds

Nine complete 40-question Grade 6 practice rounds for AK STAR, built for calm explorer thinking with ratios, rational numbers, expressions, equations, geometry, statistics, answer keys, and clear explanations for every item.

Jay Daie and Reza Nazari



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Welcome, Alaska Math Explorer!

Nine focused rounds using calm explorer thinking

This book gives you nine full Grade 6 practice tests for AK STAR. Each round uses glacier paths, northern lights, and wide-open trails as a fresh mental backdrop while you read closely, choose a smart strategy, show your work, and check whether your answer makes sense.

Your Alaska Practice Promise

Move from clue to clue like a marked route: notice the question, choose the tool, and verify the answer.

Read

Plan

Check

How to Use This Book

A nine-session routine for calm explorer thinking

1. **Work in order.** Take one 40-question test at a time in a quiet place.
2. **Preview the skills.** Scan the quick review pages before beginning the first round.
3. **Correct actively.** Retry missed items before reading the full explanation.
4. **Mark confidence.** Put a small star beside problems where your plan felt strong.
5. **Plan the next round.** Use the growth log to choose one habit and one skill to practice.

Alaska review rhythm: Work one round, review the trail of mistakes, and return with a sharper map for the next test.



What Is Inside?

Nine AK STAR tests, 360 questions, and a full review path

Part	What You Will Practice
Tests 1–3	Foundation rounds for ratios, rational numbers, operations, and careful reading.
Tests 4–6	Skill-building rounds with expressions, equations, geometry, data, and problem models.
Tests 7–9	Final stamina rounds 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. Calm explorer thinking means recognizing the skill even when the next question changes topic, changes format, or asks for an explanation.



Scan me!
For more practice
& answers

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1) A thermometer shows a temperature of 15°C . The temperature drops 25°C . What is the new temperature?

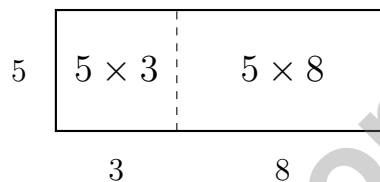
A. -10°C

C. 40°C

B. 10°C

D. -40°C

2) A student tries to use the area model below to find $5(3+8)$ but makes an error. The student writes: $5(3+8) = 15 + 8 = 23$. What is the error?



A. 5 was only distributed to the first term

C. $5(3+8)$ should simplify to 55, not 23

B. The sum $3+8$ should equal 11, not both terms

D. Choices A and C are both correct

3) A number line shows tick marks at tenths from -2 to 1 . Point G is marked at -1.4 . What is the distance from point G to 0?

A. 0.6

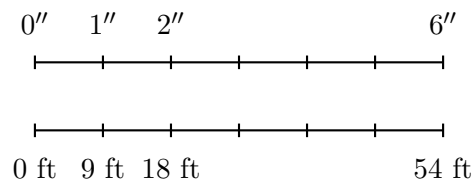
C. 1.6

B. 2.4

D. 1.4



- 4) A double number line shows the scale relationship between a drawing and reality.



What is the actual length represented by 4'' on the drawing?

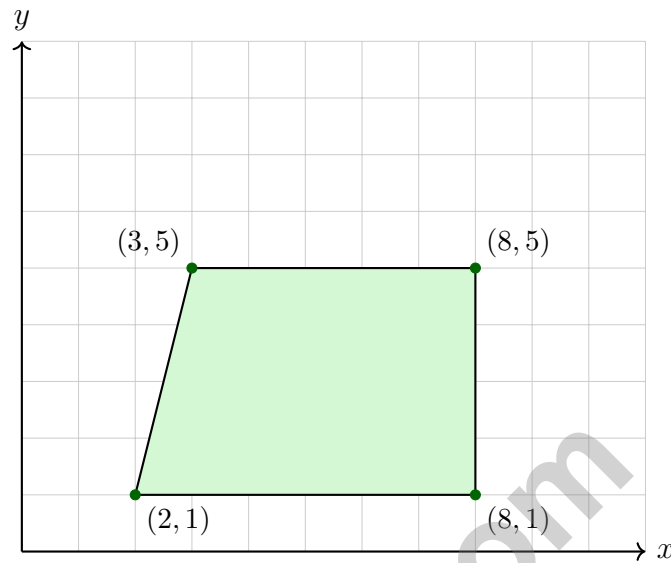
- A. 27 feet C. 45 feet
 B. 54 feet D. 36 feet
- 5) What is $4,752 \div 24$?
- A. 198 C. 202
 B. 200 D. 206
- 6) Place-value chart of a decimal is shown. What is the number in standard form?

Ones	Tenths	Hundredths
5	4	8

- A. 548 C. 54.8
 B. 0.548 D. 5.48
- 7) What is the GCF of 24 and 60?
- A. 6 C. 24
 B. 12 D. 60



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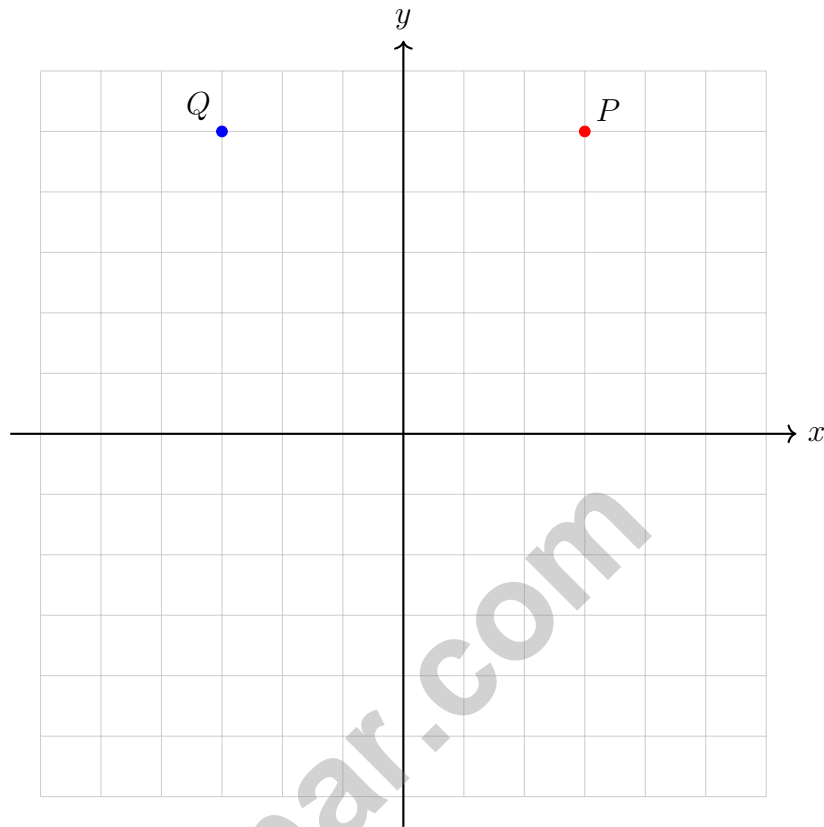


1)

The right-hand side of this trapezoid is the vertical segment from $(8, 1)$ to $(8, 5)$.
What is its length?

- A. 4 units C. 6 units
 B. 5 units D. 7 units





2)

Points P and Q are shown on the coordinate plane. What do these points have in common?

- A. They are in the same quadrant
- B. They have the same y -coordinate
- C. They are reflections across the origin
- D. They have the same x -coordinate

3) A stock loses \$3 in value each day for 12 days. What is the total change in value?

- A. -\$9
- B. \$9
- C. -\$36
- D. \$36



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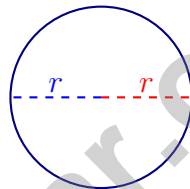
1) What is the distance between the points $(2, 3)$ and $(2, -5)$ on the coordinate plane?

- A. 2 units C. 5 units
 B. 3 units D. 8 units

2) A stem-and-leaf plot shows test scores: Stem 6: Leaf 5, 7, 9 Stem 7: Leaf 1, 2, 2, 4, 4, 8 Stem 8: Leaf 0, 3, 6, 9 Stem 9: Leaf 2, 5

What is the median test score?

- A. 72 C. 78
 B. 80 D. 74



3)

If $r = 2.5$ cm, what is d ?

If a circle has a radius of 2.5 cm, what is the diameter?

- A. 1.25 cm C. 5 cm
 B. 2.5 cm D. 6.25 cm

4) Which question would you answer by collecting data?

- A. What is 5×6 ? C. What are the favorite colors of students in my grade?
 B. How many planets are in our solar system? D. What is the freezing point of water?



- 5) A histogram shows the prices (in dollars) of items at a store. The intervals and their frequencies are: \$5–\$10: 12; \$10–\$15: 20; \$15–\$20: 18; \$20–\$25: 10. How many items in total are shown in the histogram?

- 6) A data set has a mean of 15 and a median of 12. What does this tell us about the shape of the data?

- A. The data is symmetric
- B. The data is bimodal
- C. The data is skewed left
- D. The data is skewed right
- 7) Find the mean of 20, 30, 40, 50.
- A. 30
- B. 35
- C. 40
- D. 45
- 8) Using the temperature data from Question 5, which temperature appears most frequently (the mode)?
- A. No mode
- B. 41°F
- C. 44°F
- D. 48°F



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Alaska AK STAR Practice Test Answer Keys

How to use this Alaska AK STAR 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 calm explorer thinking
3. rework the problem before reading the full explanation, using this reminder:
Move from clue to clue like a marked route: notice the question, choose the tool, and verify the answer.

A calm Alaska correction routine turns every missed item into useful practice. Work one round, review the trail of mistakes, and return with a sharper map for the next test.



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Alaska Practice Test Answers and Explanations

Review the nine printed AK STAR tests with careful, observant, and ready for a bigger trail habits.

Practice Test 1 Answers and Explanations

- 1) **Choice A is correct.** **(6.EE.7)** Temperature drop means subtraction: $15 - 25 = -10^\circ \text{C}$.
- 2) **Choice D is correct.** **(6.NS.4)** The student only multiplied $5 \times 3 = 15$ instead of distributing to both terms. The correct solution is $5(3 + 8) = 5 \cdot 3 + 5 \cdot 8 = 15 + 40 = 55$. The area model shows both parts, confirming both must be distributed to.
- 3) **Choice D is correct.** **(6.SP.4)** Distance from -1.4 to 0 is $|0 - (-1.4)| = 1.4$ units.
- 4) **Choice D is correct.** **(6.RP.3)** The pattern shows $1'' = 9 \text{ ft}$. So $4'' = 4 \times 9 = 36 \text{ ft}$.
- 5) **Choice A is correct.** **(6.NS.2)** $4,752 \div 24 = 198$. Check: $24 \times 198 = 4,752$.
- 6) **Choice D is correct.** **(6.NS.3)** Reading the chart: 5 ones, 4 tenths, 8 hundredths gives 5.48.
- 7) **Choice B is correct.** **(6.NS.4)** Factors of 24: 1, 2, 3, 4, 6, 8, 12, 24. Factors of 60: 1, 2, 3, 4, 5, 6, 10, 12, 15, 20, 30, 60. Common factors: 1, 2, 3, 4, 6, 12. GCF is 12.
- 8) **Choice C is correct.** **(6.NS.5)** The vertical distance is the difference: $150 - (-45) = 150 + 45 = 195 \text{ feet}$.
- 9) **Choice D is correct.** **(6.SP.4)** $|-1| = 1$ and $|1| = 1$, so $1 + 1 = 2$.
- 10) **The correct answer is 60.** **(6.RP.3)** Markup is 50% of $\$40 = 0.50 \times 40 = \20 . Selling price is $\$40 + \$20 = \$60$.
- 11) **Choice C is correct.** **(6.NS.7)** Red is at -3 and Blue is at 1 . Since $-3 < 1$, Red is less than Blue.
- 12) **Choice A is correct.** **(6.EE.1)** $-6 + 14 = 8^\circ \text{F}$.
- 13) **The correct answer is 140 dollars.** **(6.EE.9)** Use the hourly rate as the unit rate: $c = 40 \times 3.5 = 140$. The equation $c = 40h$ is proportional because when $h = 0$, $c = 0$, so it passes through the origin $(0, 0)$.
- 14) **Choice B is correct.** **(6.EE.3)** Substitute: $5(2) + 2(3) - 3(1) = 10 + 6 - 3 = 13$.
- 15) **Choice A is correct.** **(6.EE.6)** The bar shows $v + v + 9 = 2v + 9 = 35$. So $2v = 26$ and $v = 13$.
- 16) **Choice A is correct.** **(6.EE.5)** Divide both sides by 3: $x = 18 \div 3 = 6$.
- 17) **Choice D is correct.** **(6.EE.8)** "Greater than or equal to" uses the \geq symbol, so the inequality is $x \geq -5$.
- 18) **Choice C is correct.** **(6.G.1)** Rectangle area is $10 \times 6 = 60 \text{ cm}^2$. Triangle area is $\frac{1}{2} \times 10 \times 4 = 20 \text{ cm}^2$. The total area is $60 + 20 = 80 \text{ cm}^2$.
- 19) **Choice C is correct.** **(6.G.4)** A triangular prism has 2 triangular bases and 3 rectangular faces (the lateral faces connecting the edges of the two triangles). In its net, there are exactly 3 rectangles.
- 20) **The correct answer is Simple interest earns money, and net worth is Assets minus Debts.** **(6.G.5)** (B) is true: simple interest calculated using $I = P \times r \times t$ earns money on savings. (D) is true: net worth is the difference between what you own (assets) and what you owe (debts). (A) is false (credit cards borrow money); (C) is false (debit cards withdraw from your account, not credit cards); (E) is false (saving is important for financial health).
- 21) **Choice C is correct.** **(6.SP.1)** The different responses show that people exercise different amounts. This variability is expected and indicates the question is statistical. Variability is a defining feature of statistical questions.
- 22) **Choice D is correct.** **(6.SP.2)** Distances from mean 7.04: 0.24, 0.14, 0.04, 0.04, 0.06, 0.16, 0.26. Sum ≈ 0.94 . MAD $\approx 0.94/7 \approx 0.134 \approx 0.15$.
- 23) **Choice D is correct.** **(6.SP.4)** Mode: 64 in (5 dots) is correct. Total: $1 + 3 + 5 + 4 + 2 = 15$ correct. Median: 8th value of 15 is 64 in, correct. False statement: students ≥ 66 in are $4 + 2 = 6$ out of 15, which is 40%, not more than half.
- 24) **Choice B is correct.** **(6.RP.1)** A smaller box means a smaller IQR, indicating less spread in the middle 50% of the data.
- 25) **Choice B is correct.** **(6.NS.8)** Distance on map: $|7 - 1| = 6$ units. Real distance: $6 \times 100 = 600$ meters.
- 26) **Choice D is correct.** **(6.EE.3)** "The quotient of 18 and 2" is $\frac{18}{2}$. "The difference of $\frac{18}{2}$ and w " means $\frac{18}{2} - w$.
- 27) **The correct answer is 4320.** **(6.EE.9)** Annual savings: 12% of $\$36000 = 0.12 \times 36000 = \4320 .



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Hi, Math Athlete!

◇ 9 practice tests done! That's serious training. Your math muscles are strong. You are in great shape for the big test. ◇

★ **Trainers know:** muscle memory is real. The more you practice, the more your brain knows what to do without thinking. You built that muscle memory! ★

Athlete Performance

- **Endurance:** TOP! You can finish a long test.
- **Strength:** STRONG! You handle hard problems.
- **Speed:** JUST RIGHT! You don't rush.
- **Recovery:** GOOD! You bounce back from tough questions.

Trainer tip: on test day, drink water, breathe deeply, and warm up with the easier questions first. Your training will carry you the rest of the way!

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

Jay Daie

Your Math Trainer

PRACTICE MORE. ACHIEVE MORE.

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 any test.

With 9 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.

PERFECT FOR:

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



**PRACTICE TODAY.
SUCCEED TOMORROW.**

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 math concepts aligned with standards.



Test Confidence

Get familiar with test formats and improve accuracy.



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.



9 PRINTED
PRACTICE TESTS



2 ONLINE
PRACTICE TESTS



DETAILED ANSWER
EXPLANATIONS