

7 Alaska AK STAR

7
PRINTED
TESTS
+
2
ONLINE
TESTS

Grade 6 MATH PRACTICE TESTS

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

Standards-Aligned *Steady Southern*
Problem Solving for Comprehensive
Assessment Program

-  7 Full-Length Printed Tests
-  Standards-Aligned Math Practice
-  Detailed Answer Keys and Explanations
-  Build Confidence. Achieve Success.



You've Got This!

 PREPARE PRACTICE SUCCEED

 PRACTICE WITH PURPOSE

 STRENGTHEN MATH SKILLS

 REVIEW, IMPROVE, AND SUCCEED

7 Alaska AK STAR Grade 6 Math Practice Tests

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



Seven 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.

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Welcome, Alaska Math Explorer!

Eight focused rounds using calm explorer thinking

This book gives you seven 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 seven-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?

Eight AK STAR tests, 320 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.
Test 7	Final stamina round 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.



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& answers

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1) A soccer team trains together. They cover 12 miles in $\frac{5}{2}$ hours. What is their unit rate in miles per hour?

A. 2.4 mph

C. 4.0 mph

B. 3.0 mph

D. 4.8 mph

2) A jar contains 20 marbles of different colors. The probability of drawing a purple marble is 0.20. How many purple marbles are in the jar?

A. 2

C. 5

B. 10

D. 4

3) A data set contains: 43, 48, 45, 52, 50, 47, 54, 51. A student claims the stem 4 has 4 leaves. Is this claim correct?

Stem	Leaf
4	3, 5, 7, 8
5	0, 1, 2, 4

A. Yes, because 43, 45, 47, 48 are in the 40s

C. Yes, but some leaves are ordered incorrectly

B. No, because one value is missing

D. No, there are only 3 leaves in stem 4



- 8) A student writes an expression for “10 less than twice a number n .” What is the correct expression?
- A. $2n - 10$ C. $10 - 2n$
 B. $2(n - 10)$ D. $n - (10 \times 2)$
- 9) Check whether $x = 3$ is a solution to $\frac{x}{3} = 1$.
- A. Yes, because $\frac{3}{3} = 1$ C. No, because $3 - 3 = 0$
 B. No, because $3 \times 3 = 9$ D. Yes, because $3 + 1 = 4$
- 10) If the area of a circle is approximately 113.04 cm^2 and $\pi \approx 3.14$, what is the diameter?
- A. 6 cm C. 18 cm
 B. 24 cm D. 12 cm
- 11) A restaurant tracks daily customer counts. Last month: mean = 150, range = 80. This month: mean = 155, range = 20. What does this tell you?
- A. This month had more customers and less consistency C. Both months had similar customer patterns
 B. This month had more customers and more consistency D. This month definitely had fewer total customers
- 12) Find the median of 2, 5, 8, 11, 14, 17.
- A. 9.5 C. 11
 B. 8 D. 10



1) Evaluate: $(5 + 1)^2 \div 3 + 4$

A. 8

C. 20

B. 16

D. 36

2) An online grocery store sells canned beans. 9 cans cost \$5.40. What is the unit price per can?

A. \$0.50 per can

C. \$0.70 per can

B. \$0.60 per can

D. \$1.00 per can

3) A coffee shop blends espresso and milk in a ratio of 3 : 7. How much milk is needed with 6 shots of espresso?

Espresso (shots)	Milk (oz)
3	7
6	?

A. 10

C. 14

B. 12

D. 16

4) A bucket holds 4 quarts of water. How many pints is this? (Use 1 quart = 2 pints.)

A. 2 pints

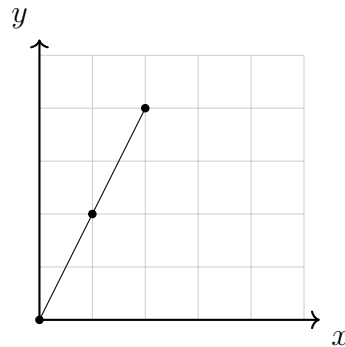
C. 8 pints

B. 6 pints

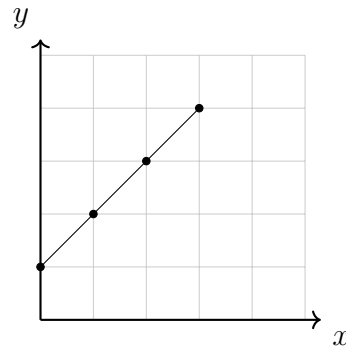
D. 12 pints



5) Which graph represents a proportional relationship between x and y ?



Graph A



Graph B

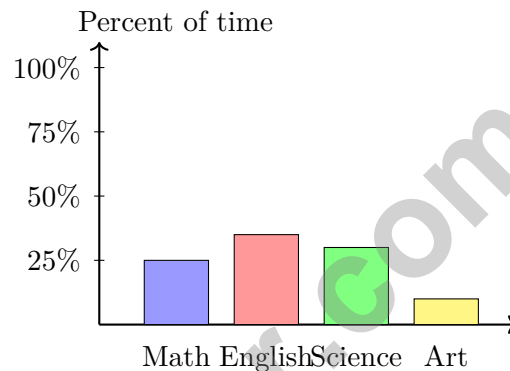
- A. Graph A only C. Both graphs
 B. Graph B only D. Neither graph
- 6) What is the quotient of $6,435 \div 33$?
- A. 195 C. 199
 B. 197 D. 205
- 7) Divide: $15.6 \div 2$
- A. 7.8 C. 13.6
 B. 78 D. 31.2
- 8) A gardener is arranging plants. They have 35 tomato plants and 49 pepper plants. They want to arrange them in rows with the same number of each type of plant per row, using all plants. How many rows can they make?
- A. 5 rows C. 35 rows
 B. 49 rows D. 7 rows



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1) Which of these is a statistical question?

- A. How tall am I?
 B. What is the capital of Texas?
 C. How many minutes do students in my class spend on homework each night?
 D. How many days are in a year?



2)

The bar graph shows how a student spent 20 hours studying different subjects, by percent of total time. How many hours were spent on Science?

- A. 6 hours
 B. 4 hours
 C. 5 hours
 D. 8 hours

3) Which shows the correct order from least to greatest: $\frac{1}{2}$, 40%, 0.45?

- A. 40%, $\frac{1}{2}$, 0.45
 B. 40%, 0.45, $\frac{1}{2}$
 C. $\frac{1}{2}$, 40%, 0.45
 D. 0.45, 40%, $\frac{1}{2}$

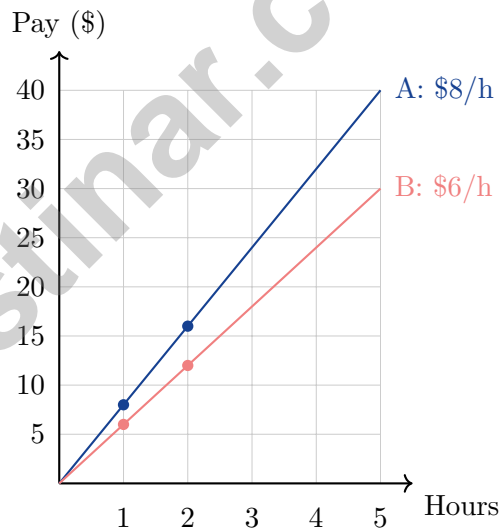


- 4) The table shows the relationship between time and distance for a car traveling at constant speed.

Time (hours)	1	3	5
Distance (miles)	60	180	300

Find the speed of the car in miles per hour.

- 5) Two students compared their hourly pay rates. Student A earns \$8 per hour; Student B earns \$6 per hour. Which statement about the graph is true?



- A. Neither line passes through the origin C. Neither relationship is proportional
 B. Student A's line is steeper D. All of the above



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

Practice Test 1 Answers and Explanations

- 1) **Choice D is correct.** **(6.RP.2)** $12 \div \frac{5}{2} = 12 \times \frac{2}{5} = \frac{24}{5} = 4.8$ miles per hour.
- 2) **Choice D is correct.** **(6.SP.6)** Number of purple marbles = $0.20 \times 20 = 4$.
- 3) **Choice A is correct.** **(6.SP.4)** The values 43, 45, 47, 48 all belong to stem 4 (the 40s), giving 4 leaves. The claim is correct.
- 4) **Choice A is correct.** **(6.NS.1)** A circle has 100%. Divide by 5: $100 \div 5 = 20\%$ per section.
- 5) **Choice D is correct.** **(6.RP.3)** The data is: 21, 23, 25, 28, 30, 34, 37, 42, 46. Each value appears exactly once, so there is no mode (no repeated value).
- 6) **Choice C is correct.** **(6.RP.1)** Simplify the tricky choice: $6 : 8$ becomes $3 : 4$, not $2 : 3$. The other choices all match $2 : 3$ in ratio or fraction form.
- 7) **Choice D is correct.** **(6.RP.3)** 60% of 15 = $0.60 \times 15 = 9$ kg.
- 8) **Choice A is correct.** **(6.EE.6)** "Twice a number n " is $2n$. "10 less than" that amount means subtract 10, so the expression is $2n - 10$.
- 9) **Choice A is correct.** **(6.EE.5)** Substitute $x = 3$ into the equation. Check: $\frac{3}{3} = 1$ is true.
- 10) **Choice D is correct.** **(6.G.5)** From $A = \pi r^2$, we get $113.04 \approx 3.14 \times r^2$, so $r^2 \approx 36$, thus $r = 6$ cm. Diameter $d = 2 \times 6 = 12$ cm.
- 11) **Choice B is correct.** **(6.SP.2)** Mean increased from 150 to 155 (slightly more customers). Range decreased from 80 to 20 (much more consistent day-to-day).
- 12) **Choice A is correct.** **(6.SP.2)** Median is the average of the two middle values (positions 3 and 4): $\frac{8 + 11}{2} = 9.5$.
- 13) **Choice D is correct.** **(6.SP.4)** The bars show a peak on the left and a tail extending to the right, which characterizes a right-skewed distribution.
- 14) **Choice D is correct.** **(6.RP.1)** If every data value is identical, then min, Q_1 , median, Q_3 , and max are all equal. In this edge case, Q_1 is not less than the median; they are equal.
- 15) **Choice C is correct.** **(6.EE.8)** The symbol $>$ means "greater than," so $p > 15$ reads as " p is greater than 15."
- 16) **Choice A is correct.** **(6.EE.8)** $x < -3$ means -3 is not included (open circle) and we want all numbers less than -3 (arrow pointing left).
- 17) **Choice B is correct.** **(6.EE.9)** At \$3 per item: 5 items cost $3 \times 5 = 15$ dollars; 12 items cost $3 \times 12 = 36$ dollars.
- 18) **The correct answer is 6.** **(6.NS.3)** Step 1: $(-4) \times (-9) = 36$ (negative times negative is positive). Step 2: $36 \div 6 = 6$.
- 19) **Choice D is correct.** **(6.G.1)** Area = $18 \times 10 = 180 \text{ m}^2$.
- 20) **Choice B is correct.** **(6.SP.2)** The IQR only uses Q_1 and Q_3 , which are based on the middle 50% of data. Outliers in the tails don't directly affect Q_1 or Q_3 . Range, MAD, and mean all include or are influenced by all data points, making them sensitive to outliers.
- 21) **The correct answer is 7.** **(6.EE.7)** Floor after rising 8 floors: $-1 + 8 = 7$.
- 22) **The correct answer is A (distance: $|4 - 0| = 4$) and B (distance: $|7 - 3| = 4$).** **(6.NS.8)** A has horizontal distance $|4 - 0| = 4$, and B has vertical distance $|7 - 3| = 4$. Choices C, D, and E have distances 3, 5, and 5 units.
- 23) **Choice B is correct.** **(6.RP.3)** The ratio is $2 : 9$. When water is 27 (multiply by 3), lemons are $2 \times 3 = 6$.
- 24) **Choice B is correct.** **(6.RP.3)** $80\% = \frac{80}{100} = 0.80$.
- 25) **Choice D is correct.** **(6.RP.3)** After 4 days: $5 \times 4 = 20$ mL taken. Remaining: $30 - 20 = 10$ mL. Convert: $10 \div 1000 = 0.01$ liters.
- 26) **Choice C is correct.** **(6.NS.4)** List what both numbers share evenly: candidates include 12, since $24 = 12 \times 2$ and $36 = 12 \times 3$. Nothing larger divides both cleanly, so the GCF settles at 12.
- 27) **Choice D is correct.** **(6.G.1)** Using $A = \frac{1}{2}bh$, we get $A = \frac{1}{2} \times 8 \times 4 = 16 \text{ in}^2$.



Trail Guide's Final Note

Hi, Brave Trail-Walker!

◇ You walked all 7 miles of the practice trail. Smooth paths, steep climbs, narrow passes. Every step taught you something. ◇

★ **Trail guides know:** the most important thing is to keep moving. Slow steps still get you there. You have a steady stride now. ★

Trail Survey

- **Route Knowledge:** You know lots of problem types.
- **Steady Pace:** You don't rush. You don't stop.
- **Pack Loaded:** You have all the math tools you need.
- **Confidence:** You trust your training.

Guide's tip: on test day, stay on the trail you've walked before. Use the strategies you've practiced. Trust the route. The summit is one steady walk away!

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

Jay Daie

Your Math Trail Guide

MASTER TODAY. SUCCEED TOMORROW.

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 comprehensive assessments.

With 7 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 concepts aligned with standards through meaningful practice.



Test Confidence

Become familiar with test formats and improve accuracy and speed.



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.



7 FULL-LENGTH
PRINTED TESTS



STANDARDS-
ALIGNED PRACTICE



DETAILED ANSWER
KEYS & EXPLANATIONS