

# 3 Alaska AK STAR Grade 6 Math Practice Tests

*Full-Length Test Prep with Detailed Answer Explanations*

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QUICK SPRINT

# 3 Practice Tests

⚡ *Fast, Focused, Effective.* ⚡

*Ready to find out how prepared you are?*

*These **3 quick practice tests** are your fast track to confidence. Each one covers every Grade 6 topic — ratios, integers, expressions, geometry, and statistics.*

🕒 *See exactly where you stand*

🕒 *Zero in on what needs work*

🕒 *Build real confidence, fast!*

***Grab a pencil and let's sprint!***

“ *Three tests is all it takes to know your strengths and sharpen your weak spots!* ”

# How to Use This Book

Three tests. Three steps. One powerful result.

## What's Inside

- **3 Full-Length Practice Tests** — every Grade 6 math topic in each test: ratios, integers, expressions, geometry, statistics.
- **Complete Answer Key** — detailed explanations so you understand why, not just what.
- **Formula Reference Sheet** — key formulas at your fingertips.
- **Sprint Scorecard** — track your scores and see your growth!

## Your 3-Step Sprint Plan

### Step 1: The Warm-Up (Test 1)

Take Test 1 with **no timer**. This is your diagnostic sprint — find out what you already know and what needs work. Check every answer afterward and note the topics you missed.



### Step 2: The Practice Run (Test 2)

Set a timer for **60 minutes**. Focus on the tricky topics from Test 1. This is where you build speed and accuracy.



### Step 3: Race Day (Test 3)

Full test conditions: timed, quiet room, no peeking. Treat this like the real thing. Compare your score with Test 1 and see how far you've come!

 **Multiple Choice**

Choose the best answer from A–D. Not sure?  
Eliminate an obvious wrong answer first — it  
narrows your odds fast!

 **Open Response**

Show every step of your work. Even if your  
final answer isn't perfect, clear reasoning earns  
credit!



**Sprint Coach:** "Space your three tests a few days apart. Use the break to review what tripped you up. That's the secret to a strong finish line!"



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# ⚡ 3 Power Moves for Test Day ⚡

Simple strategies that make a big difference

## ⚡ Power Move 1: Read Like a Detective

### 💡 Pro Tip

Watch out for words like "NOT", "LEAST", and "GREATEST" — they change everything!

1. Read the **whole** question before looking at answers.
2. **Circle** key numbers and important words.
3. **Underline** what the question is actually asking.

## ⚡ Power Move 2: Work Smart, Not Fast

1. **Answer easy questions first.** Skim through and grab every point you can.
2. **Mark the tough ones** with a star ★ and come back later.
3. **Show your work** — even on multiple choice. Writing steps prevents silly mistakes.
4. **Estimate first.** Does your answer make sense? If you got 5,000 for a question about percentages of 50, something's off!

## ⚡ Power Move 3: Check Before You're Done

Finished? Don't hand it in yet!

- |                                 |                                     |
|---------------------------------|-------------------------------------|
| ✔ Re-read any starred questions | ✔ Make sure no question is blank    |
| ✔ Check your decimal points     | ✔ Recheck fraction simplification   |
| ✔ Verify negative signs         | ✔ Confirm units in geometry answers |

 **Common Grade 6 Traps**

- ✗ Mixing up **ratios** and **rates**
- ✗ Forgetting integer **sign rules**
- ✗ Wrong **order of operations**
- ✗ Confusing **area** and **perimeter**
- ✗ Misreading **coordinate axes**
- ✗ Forgetting to **simplify**



“Three power moves might sound simple, but the students who use them consistently **always** outperform those who don't. Master these and you're already ahead!”

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# Gear Up!

Everything you need before you start each test



## Sharpened Pencils

Two is better than one!



## Good Eraser

Clean corrections matter



## Scratch Paper

For working out steps



## A Quiet Spot

Focus is your superpower



## A Timer

Start using on Test 2



## Confidence

You've got this!

### OK to Use

- ✓ Pencils and erasers
- ✓ Blank scratch paper
- ✓ The formula reference in this book
- ✓ A ruler (for geometry questions)

### Not Allowed

- ✗ Calculators
- ✗ Phones, tablets, or computers
- ✗ Notes, textbooks, or study guides
- ✗ Help from anyone else

### For Parents & Teachers

- Space the 3 tests **several days apart** so there's time to review mistakes in between.
- Let your child take Test 1 untimed to build comfort with the format.
- After each test, sit together with the Answer Key. Focus on **understanding the reasoning**, not just the score.
- If a topic keeps coming up as a weak spot, pair this book with our **Grade 6 Math Study Guide** for deeper review.

# Formula Reference Sheet

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## Area Formulas

**Rectangle**  $A = l \times w$

**Parallelogram**  $A = b \times h$

**Triangle**  $A = \frac{1}{2} \times b \times h$

**Trapezoid**  $A = \frac{1}{2}(b_1 + b_2) \times h$

## Volume

**Rectangular**  $V = l \times w \times h$

**Prism**

## Surface Area

Find the area of each face, then add them all up.

**Rectangular Prism:**

$$SA = 2lw + 2lh + 2wh$$

## Order of Operations

**P** Parentheses first

**E** Exponents

**M/D** Multiply & Divide (left to right)

**A/S** Add & Subtract (left to right)

## Ratios & Percents

**Ratio:**  $a : b$  or  $\frac{a}{b}$

**Unit rate:** amount per 1 unit

**Percent:** a ratio out of 100

$$\text{Part} = \text{Percent} \times \text{Whole}$$

## Integers & Absolute Value

**Integers:**

$\dots, -3, -2, -1, 0, 1, 2, 3, \dots$

$$|-5| = 5 \quad |5| = 5$$

**Absolute value** = distance from 0

## Expressions & Equations

**Exponent:**  $3^4 = 3 \times 3 \times 3 \times 3 = 81$

**Variable:** a letter that stands for a number

**Equation:** two expressions joined by =

**Inequality:** uses  $<$ ,  $>$ ,  $\leq$ ,  $\geq$

## Coordinate Plane

**Ordered pair:**  $(x, y)$

**x-axis:** horizontal    **y-axis:** vertical

**Origin:**  $(0, 0)$

**Four quadrants** (I, II, III, IV)

## Statistics

**Mean:** sum of values  $\div$  count

**Median:** middle value (sorted)

**Range:** max  $-$  min

# My Sprint Scorecard

Track your speed and accuracy across all 3 tests!

Name: \_\_\_\_\_

|  Test |  Date |  Score |  Feeling |
|--|--|--|---|
|  1    | _____  | ____ / ____  |          |
|  2    | _____  | ____ / ____  |          |
|  3  | _____  | ____ / ____  |        |

## My Sprint Review

*My strongest topic:*

\_\_\_\_\_

*The topic I need to practice most:*

\_\_\_\_\_

*How my score changed from Test 1 to Test 3:*

\_\_\_\_\_

*My goal for the real test:*

\_\_\_\_\_

*Three sprints, three chances to improve. Every point forward is a win!*

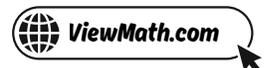
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# ★ Table of Contents ★

*Here's what we'll explore together!*

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*Let's learn and have fun!*

PREVIEW



PRACTICE TEST

1

## Practice Test 1

 30 Questions

### Before You Start

- ✓ *Read each question carefully before choosing your answer.*
- ✓ *Show your work on scratch paper when you need to.*
- ✓ *Skip hard questions and come back to them later.*
- ✓ *Check your answers when you're done.*
- ✓ *Take your time — there's no rush!*

★ *You've Got This!* ★

*Do your best and show what you know!*



1. Write a sentence using the phrase "for every" to describe the ratio 9 : 2.

Your Answer:

2. A 20-ounce bottle of shampoo costs \$5.00 and a 32-ounce bottle costs \$7.04. Which bottle has the lower unit price?

Your Answer:

3. A bus uses 7 gallons of gas for every 42 miles. How many gallons does it need for 120 miles?

Your Answer:

4. Write  $\frac{7}{10}$  as a percent.

Your Answer:

5. Boys and girls at a camp are in a 3 : 5 ratio. There are 48 campers total. How many girls are there?

(A) 18

(B) 24

(C) 30

(D) 20

6. Each serving of juice is  $\frac{2}{5}$  cup. A jug holds  $\frac{4}{5}$  cup. How many servings are in the jug?

(A)  $\frac{8}{25}$

(B)  $\frac{2}{5}$

(C)  $\frac{5}{2}$

(D) 2





13. Evaluate  $20 - 3n$  when  $n = 4$ .

(A) 8

(B) 12

(C) 17

(D) 32

14. Simplify:  $6 + 2(x + 4)$

(A)  $2x + 10$

(B)  $8x + 4$

(C)  $2x + 14$

(D)  $16x$

15. An elevator starts at floor  $f$  and goes up 7 floors. Which expression gives the new floor?

(A)  $f - 7$

(B)  $7f$

(C)  $f + 7$

(D)  $f \div 7$

16. Solve:  $12p = 84$

(A)  $p = 72$

(B)  $p = 96$

(C)  $p = 7$

(D)  $p = 6$

17. The temperature stayed below 0 degrees. Which inequality represents the temperature  $t$ ?

(A)  $t > 0$

(B)  $t < 0$

(C)  $t \leq 0$

(D)  $t \geq 0$



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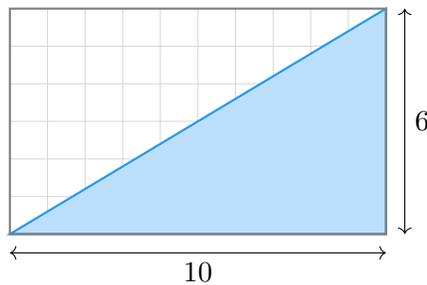
18. To check if your graph is correct, you should:

- (A) Count the number of tick marks
- (B) Pick a number in the shaded region and test it in the inequality
- (C) Always shade to the right
- (D) Use a closed circle every time

19. You earn \$8 per hour. Which variable is the independent variable?

- (A) Earnings
- (B) Hours worked
- (C) Hourly rate
- (D) Total pay

20. A triangle is formed by cutting a  $10 \times 6$  rectangle along its diagonal, as shown below. What is the area of the shaded triangle?



Your Answer:

21. To find the length of a horizontal side on the coordinate plane, you subtract the:

- (A)  $y$ -coordinates and take the absolute value
- (B)  $x$ -coordinates and take the absolute value
- (C)  $x$ -coordinate from the  $y$ -coordinate
- (D) coordinates and divide by 2



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22. A rectangle has vertices  $(-3, 2)$ ,  $(5, 2)$ ,  $(5, -4)$ , and  $(-3, -4)$ . What is the area?

- (A) 24 square units                      (B) 36 square units  
(C) 48 square units                      (D) 28 square units

23. Mia paints all sides of a wooden block that is 3 ft by 2 ft by 4 ft. She then paints an identical block. How much total area does she paint?

- (A)  $52 \text{ ft}^2$                                   (B)  $104 \text{ ft}^2$   
(C)  $48 \text{ ft}^2$                                   (D)  $26 \text{ ft}^2$

24. Lena changes a non-statistical question into a statistical one. The original was "How many ounces are in a cup?" Which revision makes it statistical?

- (A) How many ounces are in 3 cups?                      (B) How many cups of water does each student drink per day?  
(C) How many ounces are in a gallon?                      (D) What is  $8 \times 2$ ?

25. Monthly snowfall in Anchorage (inches): 12, 11, 9, 3, 0, 0, 0, 0, 1, 5, 8, 15. What is the median?

- (A) 2    (B) 4  
(C) 5.3    (D) 8

26. What does a small IQR tell you about a data set?

- (A) The data values are far apart.                      (B) The middle 50% of the data is spread over a wide range.  
(C) The middle 50% of the data is clustered close together.                      (D) The data has many outliers.



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## ★ *End of Practice Test 1* ★

*Great job finishing the test!*

### *My Score*

*I got \_\_\_\_\_ out of 30 questions right.*

*Check your answers in the **Answer Key** at the back of the book.*

 *Review any questions you missed. That's how we learn!*

THANK YOU

## Enjoyed This Preview?

### Get the Full Book!

*This preview shows just a small sample of what's inside.*

*The complete book includes:*

- ✓ *All chapters and topics*
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- ✓ *Complete answer key with explanations*
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