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# 10 Alaska AK STAR




## GRADE 3

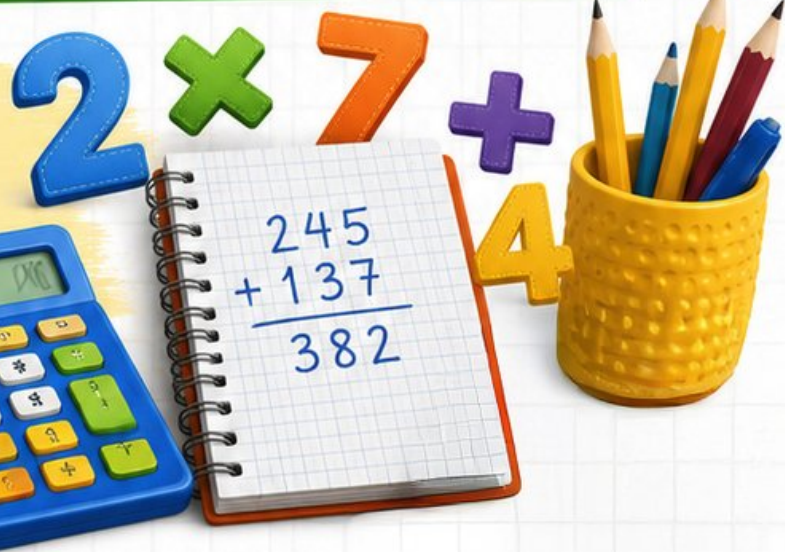
# MATH



## PRACTICE TESTS



- ✓ Complete Standards Review
  - ✓ Skill Practice
  - ✓ Word Problems and Answer Key
- 



★ ★ ★  
**PREPARE  
PRACTICE  
SUCCEED!**  
★ ★ ★



Aligned to  
Grade 3 Math  
Standards



Build Confidence  
and Master  
Math Skills



Test-Taking  
Practice for  
Success



Answer Key  
for Easy  
Review

# 10 Alaska AK STAR Grade 3 Math Practice Tests

*Standards-Aligned Review with Mixed Practice and Answer Key*



Ten complete 30-question Grade 3 practice rounds for AK STAR, built around glacier paths, northern lights, and careful tracker thinking, with answer keys and clear explanations for every item.

**Jay Daie and Reza Nazari**



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# Welcome, Alaska Math Explorer!

Ten steady rounds on the Last Frontier math route

This book gives you ten full Grade 3 practice tests for AK STAR. Each round uses glacier paths, northern lights, and careful tracker thinking to keep practice memorable while you read carefully, choose a strategy, show work, and check the answer.

## Alaska Practice Promise

I will slow down for the question, circle what matters, solve one step at a time, and use mistakes as clues for getting stronger.

Read

Plan

Check

## How to Use This Book

A ten-session routine for Alaska AK STAR review

1. **Preview the skills.** Read the quick review pages before the first test.
2. **Take one test at a time.** Treat each round like a stop on the Last Frontier math route.
3. **Mark your confidence.** Put a small star beside problems you solved with a strong plan.
4. **Check, then retry.** For missed questions, try the problem again before reading the explanation.
5. **Track your next move.** Use the growth log to name one habit and one skill for the next test.

**Good rhythm:** Test one day, correct carefully the next day, then return for the next round when your corrections feel clear.



## What Is Inside?

Ten tests, 300 questions, and a full AK STAR review path

Part	What You Will Practice
Tests 1–3	Warm-up rounds for reading carefully, choosing operations, and using models.
Tests 4–6	Skill-building rounds with fractions, measurement, area, data, and two-step problems.
Tests 7–9	Stamina rounds for mixed review, neat work, and flexible strategies.
Test 10	Final round to show growth across the whole Alaska book.
Answer Pages	Compact keys and explanations that show why each answer works.

The tests are mixed on purpose. Real test readiness means recognizing the skill even when the next question changes topic.

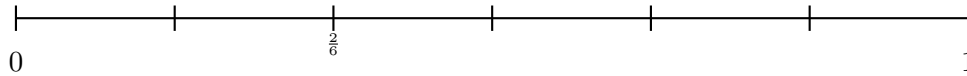


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& answers

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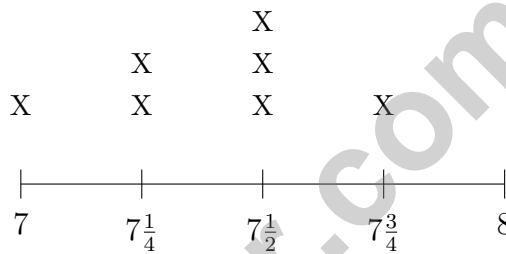
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1) On a number line from 0 to 1 split into 6 equal parts, does the line show  $\frac{1}{3}$ ?



- A. Yes, it shows  $\frac{1}{3}$  at the first tick
- B. Yes, it shows  $\frac{1}{3}$  at the second tick
- C. No, because sixths and thirds are different
- D. No, because  $\frac{1}{3}$  is always between 0 and 1

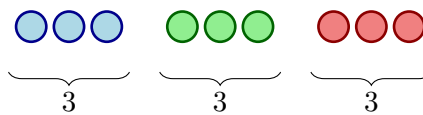
2) A line plot shows paintbrush lengths in inches:  $7, 7\frac{1}{4}, 7\frac{1}{2}, 7\frac{3}{4}, 8$ .



What is the most common paintbrush length?

- A. 7 inches
- B.  $7\frac{1}{4}$  inches
- C.  $7\frac{1}{2}$  inches
- D.  $7\frac{3}{4}$  inches

3) Which division sentence matches this picture?



- A.  $9 \div 1$
- B.  $9 + 3$
- C.  $3 \div 3$
- D.  $9 \div 3$



4) What number makes the equation true?

$$\square \times 7 = 42$$

A. 8

C. 5

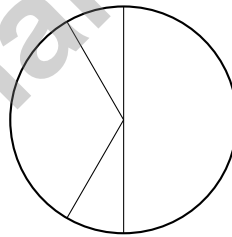
B. 7

D. 6

5) The bar is completely shaded. It shows  $\frac{5}{5}$ . Write the whole number this equals.



6) Is this circle divided into equal parts correctly?



A. Yes, it is divided into 4 equal parts

C. No, the parts are not equal

B. Yes, it is divided into 5 equal parts

D. No, it is not divided at all

7) Which fact family includes the division  $56 \div 8 = 7$ ?

A.  $6 \times 8 = 48$ ,  $48 \div 6 = 8$ ,  $48 \div 8 = 6$

C.  $8 \times 8 = 64$ ,  $64 \div 8 = 8$

B.  $7 \times 7 = 49$ ,  $49 \div 7 = 7$

D.  $7 \times 8 = 56$ ,  $56 \div 7 = 8$ ,  $56 \div 8 = 7$



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8) How many unit fractions of  $\frac{1}{4}$  make a whole?

A. 2

C. 4

B. 3

D. 8

9) Noah had 300 cookies. He gave away 145 cookies to his friends. How many cookies does Noah have left?

A. 155

C. 445

B. 165

D. 245

10) What is  $5 \times 9$ ?

A. 40

C. 50

B. 54

D. 45



11)

Count the unit squares in the grid. What is the area?

A. 10 sq cm

C. 24 sq cm

B. 20 sq cm

D. 36 sq cm



1) Ava makes 5 sets of picture cards. Each set has 20 cards. How many cards does Ava make?

- A. 25  
 B. 52

- C. 100  
 D. 1000

2) A unit square can be measured in different units. A unit square measured in inches is how many square inches?

- A. 1 square inch  
 B. 2 square inches

- C. 4 square inches  
 D. 0.5 square inches

3) Use this strategy to find  $7 \times 9$ : Think  $7 \times 10 = 70$ , then subtract one group of 7. What is  $7 \times 9$ ?

- A. 59  
 B. 62

- C. 63  
 D. 65

4)

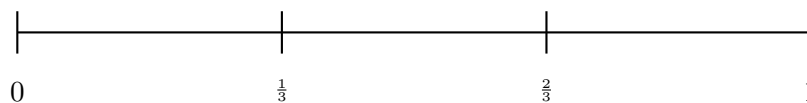


The point on the number line is closer to which number when rounded to the nearest 10?

- A. 0  
 B. 30

- C. 20  
 D. 10

5) Look at this number line divided into 3 equal parts. Which fraction is NOT on this line?



- A.  $\frac{1}{3}$   
 B.  $\frac{2}{3}$

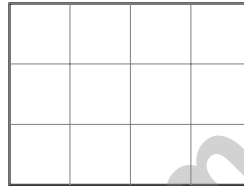
- C.  $\frac{3}{3}$   
 D.  $\frac{1}{4}$



6) How many odd numbers are in the pattern 4, 8, 12, 16, 20, 24, 28? Explain why.

7) Look at the rectangle below. How many square units cover the entire shape?

3 units



4 units

- A. 7 square units
- B. 8 square units
- C. 14 square units
- D. 12 square units



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& answers

1) Use the multiplication fact  $6 \times 9 = 54$  to write a division equation.

A.  $54 \div 6 = 9$

C.  $9 \div 6 = 1$

B.  $54 \div 9 = 6$

D.  $54 + 6 = 60$

2) Which statement is true about rectangles and rhombuses?

 A. All rectangles are rhombuses D. Rectangles have equal sides like rhombuses do B. All rhombuses are rectangles C. Both are quadrilaterals (4-sided figures)

3) A rectangle is divided equally. One part is  $\frac{1}{6}$  of the whole. How many equal parts is the rectangle divided into?

 A. 4 parts C. 3 parts B. 8 parts D. 6 parts

4) A soccer game starts at 10 : 25 AM. It ends at 11 : 20 AM. How many minutes long is the game?

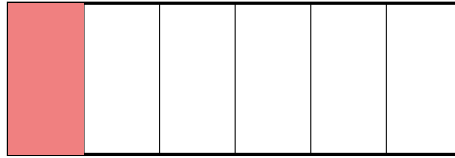
 A. 55 minutes C. 65 minutes B. 50 minutes D. 60 minutes

5) Two different rectangles both have areas of 16 square units. Which pair of dimensions is NOT possible?

 A.  $4 \times 4$  C.  $3 \times 5$  B.  $2 \times 8$  D.  $1 \times 16$ 

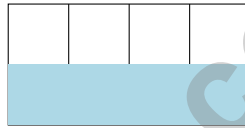
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& answers

- 6) Look at the rectangle below. It is divided into 6 equal parts, and one part is shaded.



What fraction is shaded?

- A.  $\frac{5}{6}$                        C.  $\frac{6}{1}$   
 B.  $\frac{1}{6}$                        D.  $\frac{1}{5}$
- 7) Look at the rectangle divided into 8 equal parts. Which fraction in eighths describes the shaded part?



- A.  $\frac{1}{8}$                        C.  $\frac{4}{8}$   
 B.  $\frac{2}{8}$                        D.  $\frac{3}{8}$
- 8) A store has 3 shelves with 12 books on each shelf. Plus 9 more books on a table. What is the total number of books?

- A. 24                       C. 45  
 B. 36                       D. 63
- 9) What number makes this equation true?

$$\square \div 5 = 7$$



## Practice Test Answer Keys

**How to use this section with a Grade 3 student:**

1. check the answer first
2. mark questions to try again
3. rework the problem before reading the full explanation

**A calm correction routine turns every missed item into useful practice.**

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## Practice Test Answers and Explanations

### Practice Test 1 Answers and Explanations

- 1) **Choice B is correct.** **(3.NF.2)**  $\frac{2}{6}$  equals  $\frac{1}{3}$  because both represent the same point on the line. You can simplify  $\frac{2}{6}$  to  $\frac{1}{3}$ .
- 2) **Choice C is correct.** **(3.MD.5)** At  $7\frac{1}{2}$ , there are 3 X's. This is more than at any other length.
- 3) **Choice D is correct.** **(3.OA.2)** There are 9 circles total, divided into 3 equal groups. Each group has 3 circles, so  $9 \div 3 = 3$ .
- 4) **Choice D is correct.** **(3.OA.4)** Think:  $42 \div 7 = 6$ , so the unknown is 6. Check:  $6 \times 7 = 42$ .
- 5) **The correct answer is 1.** **(3.G.2)** When numerator = denominator, the fraction equals 1 whole.  $\frac{5}{5} = 1$ .
- 6) **Choice C is correct.** **(3.G.2)** The lines do not create equal parts. Lines from the center must divide a circle into equal angles to make equal parts.
- 7) **Choice D is correct.** **(3.OA.6)** The fact family for  $7 \times 8 = 56$  includes both  $56 \div 7 = 8$  and  $56 \div 8 = 7$ .
- 8) **Choice C is correct.** **(3.NF.1)**  $\frac{1}{4} + \frac{1}{4} + \frac{1}{4} + \frac{1}{4} = \frac{4}{4} = 1$  whole. So 4 unit fractions of  $\frac{1}{4}$  make a whole.
- 9) **Choice A is correct.** **(3.NBT.2)** Subtract:  $300 - 145 = 155$ . Ones:  $0 - 5$  requires regrouping, so  $10 - 5 = 5$ . Tens:  $9 - 4 = 5$  (after regrouping). Hundreds:  $2 - 1 = 1$  (after regrouping).
- 10) **Choice D is correct.** **(3.OA.7)**  $5 \times 9 = 45$ . Count by 5s: 5, 10, 15, 20, 25, 30, 35, 40, 45.
- 11) **Choice C is correct.** **(3.MD.9)** The grid has 6 columns and 4 rows. Area =  $6 \times 4 = 24$  square cm. You can also count:  $6 + 6 + 6 + 6 = 24$  (four rows of six).
- 12) **Choice B is correct.** **(3.OA.4)**  $5 \times 3 = 15$  square units.
- 13) **Choice A is correct.** **(3.OA.8)** Step 1: Total cards:  $6 \times 4 = 24$  cards. Step 2: Subtract lost:  $24 - 8 = 16$  cards.
- 14) **Choices A and C are correct.** **(3.OA.3)** Choices A and C involve finding a total from equal groups. B, D, and E involve subtraction or addition of separate quantities.
- 15) **The correct answer is 35 square units.** **(3.MD.7)** Multiply length by width:  $7 \times 5 = 35$  square units.
- 16) **Choice D is correct.** **(3.MD.7)**  $7 \times 7 = 49$  unit square tiles.
- 17) **Choice A is correct.** **(3.NF.3)** Both bars show the same shaded amount. Both equal half.
- 18) **Choice D is correct.** **(3.OA.9)**  $5 \times 6 = 30$ . The pattern is 6, 12, 18, 24, 30, adding 6 each time.
- 19) **Choice A is correct.** **(3.MD.2)** 250 mL is the smallest amount.
- 20) **The correct answer is 12 unit squares.** **(3.MD.8)** Count rows (3) and columns (4), then multiply:  $3 \times 4 = 12$  unit squares.
- 21) **Choice C is correct.** **(3.MD.4)** Apples:  $2 \times 10 = 20$ . Oranges:  $3 \times 10 = 30$ . Total:  $20 + 30 = 50$ .
- 22) **Choice C is correct.** **(3.MD.8)** Area of a square =  $5 \times 5 = 25$  square feet.
- 23) **Choice C is correct.** **(3.NBT.1)** The tens digit is 5. Since  $5 \geq 5$ , round up: 156 rounds to 200.
- 24) **Choice B is correct.** **(3.MD.1)**  $5 : 47 + 2$  hours =  $7 : 47$ . Then  $7 : 47 + 18$  min =  $8 : 05$  AM.
- 25) **Choice C is correct.** **(3.NF.3)** The denominator was multiplied by 2 (from 4 to 8). Multiply the numerator by 2:  $3 \times 2 = 6$ . So  $\frac{3}{4} = \frac{6}{8}$ .
- 26) **Choice C is correct.** **(3.NF.2)**  $\frac{1}{2} = \frac{2}{4}$  because both represent one-half of the strip.
- 27) **Choice D is correct.** **(3.OA.5)** The distributive property multiplies 2 by each addend:  $2 \times 6 + 2 \times 4 = 12 + 8 = 20$ .
- 28) **Choice B is correct.** **(3.MD.7)** Top:  $6 \times 2 = 12$  sq units. Bottom:  $5 \times 3 = 15$  sq units. Total:  $12 + 15 = 27$  sq units.
- 29) **Choice D is correct.** **(3.MD.9)** The distributive property uses addition:  $5 \times (6 + 3) = (5 \times 6) + (5 \times 3) = 30 + 15 = 45$ , not subtraction.
- 30) **Choice C is correct.** **(3.OA.1)** Area = length  $\times$  width =  $9 \times 5 = 45$  square inches.

### Practice Test 2 Answers and Explanations

- 1) **Choice C is correct.** **(3.NF.2)**  $\frac{7}{8}$  means 7 out of 8 equal parts, which is the seventh tick mark from 0.



## Ahoy, Math Sailor!

◇ You sailed through 10 full tests. Some waters were calm. Some waters were rough. You kept your boat steady the whole way. ◇

★ **Captain's truth:** good sailors stay calm. They use the wind. They check the map. You did all those things on every test. ★

### Sailor's Skills

- **Steady Hand:** You stay calm even when problems are tricky.
- **Map Skills:** You read each problem carefully.
- **Brave Spirit:** You believe in yourself.
- **Safe Harbor:** You finish what you start.

**Captain's tip:** on test day, sail steady. Trust the map you built through 10 practice tests. You will reach safe harbor!

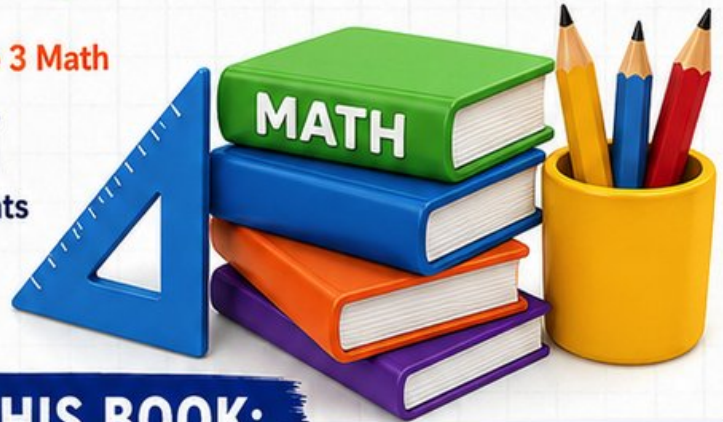
If you want to share something or ask a question, please email me at [jay@testinar.com](mailto:jay@testinar.com).

**Jay Daie**

Your Math Captain

# PRACTICE TODAY. SUCCEED TOMORROW!

Give your child the advantage they need in **Grade 3 Math** with 10 full-length practice tests that build skills, boost confidence, and improve results. Designed to mirror real test formats, this book helps students master essential math concepts and feel ready for any challenge.



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