

7

Alaska

AK STAR

Grade 3 MATH

PRACTICE TESTS

Standards-Aligned Practice with
Review, Answer Keys, and Explanations



7 Full-Length
Practice Tests



Standards-Aligned
Math Practice



Detailed Answer Keys
and Explanations



Build Confidence.
Achieve Success.

PREPARE
PRACTICE
SUCCEED



7 Alaska AK STAR Grade 3 Math Practice Tests

Standards-Aligned Practice with Review, Answer Keys, and Explanations



Seven complete 30-question practice trails for Grade 3 math:
operations, fractions, measurement, data, area, shapes, answer keys,
and clear explanations for every item.

Jay Daie and Reza Nazari



Copyright ©

Testinar Inc



Published by Testinar Inc

Testinar.com

All rights reserved. No part of this publication may be reproduced, distributed, or transmitted in any form or by any means, including photocopying, recording, or other electronic or mechanical methods, without the prior written permission of the author, except in the case of brief quotations embodied in critical reviews and certain other noncommercial uses permitted by copyright law, including Section 107 or 108 of the 1976 United States Copyright Act.

This publication is independently produced and has no official connection to any state, district, or national testing program.

Test names and organizational names used herein are the property of their respective trademark holders.



Copyright ©

Welcome to the Seven Math Trails

Seven full tests, seven fresh chances, and one braver Grade 3 thinker



Read the trail. Mark the clues. Solve with care.

To the Grade 3 Math Trail Leader

This book gives you seven complete practice trails for the Alaska AK STAR. Each trail is a full 30-question test, so students can practice accuracy, stamina, and clear explanations over time.

Alaska has glacier trails, salmon streams, mountain weather, northern lights, and careful travel maps, where careful steps matter. Strong math follows that same path: notice the question, choose a tool, show the work, and track every detail before the final answer.

Scout

Find what the problem is asking before you calculate.

Solve

Pick an equation, model, array, graph, or number line.

Prove

Check the answer and explain the thinking clearly.

Seven-trail promise: I will work with patience, use my scratch space wisely, and let every correction make my next test stronger.

How to Use This Book

A seven-trail routine for steady Grade 3 growth

Use one practice trail at a time. The goal is not to rush through more pages. The goal is to finish, check, repair, and bring a stronger habit to the next test. For Alaska students, each trail moves through glacier trails, salmon streams, mountain weather, northern lights, and careful travel maps: steady, alert, and ready for the next clue.

1. **Preview the tools.** Skim the reference page before each test.
2. **Take one test.** Work steadily and mark problems that need another look.
3. **Check the key.** Use the compact answer boxes first.
4. **Study explanations.** Read missed items and lucky guesses.
5. **Redo three problems.** Rewrite the work cleanly without copying.
6. **Name one habit.** Choose a focus such as labels, facts, fractions, or checking.
7. **Start the next trail.** Bring that habit into the next full test.

Best review habit: A missed problem is a trail marker. It shows where to slow down, look again, and choose a better step.



What Is Inside?

Seven complete practice tests with review support

Part	What You Do	Why It Helps
Practice Tests 1–7	Solve seven different 30-question tests.	Build stamina and see Grade 3 skills mixed together.
Reference Materials	Review measurement and time facts before each test.	Keep common tools close without turning pages backward.
Answer Keys	Check each answer in compact boxes.	Find mistakes quickly without losing your place.
Explanations	Read why each answer works.	Turn missed items into a clear next step.
Standards Reference	See how Alaska Grade 3 standards connect to practice.	Understand the skills behind the questions.

Each test has 26 multiple-choice questions, 1 select-all question, and 3 open-ended questions. This gives students practice with quick decisions, careful reading, and short written math answers for the Alaska AK STAR path.

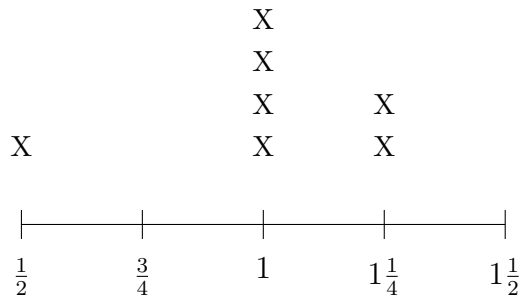


Scan me!
For more practice
& answers

Table of Contents

★ Practice Test 1	_____	14
★ Practice Test 2	_____	26
★ Practice Test 3	_____	38
★ Practice Test 4	_____	50
★ Practice Test 5	_____	63
★ Practice Test 6	_____	74
★ Practice Test 7	_____	87
Practice Test Answer Keys	_____	99
Practice Test Answers and Explanations	_____	104

1) A line plot shows pencil lead thicknesses in millimeters: $\frac{1}{2}$, $\frac{3}{4}$, 1, $1\frac{1}{4}$, $1\frac{1}{2}$.



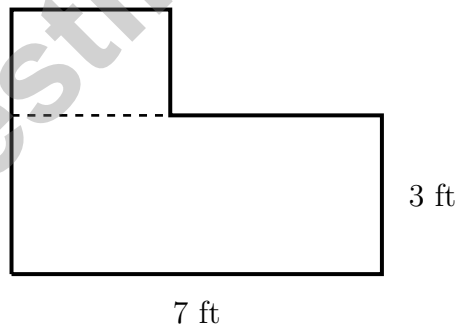
What is the most common thickness?

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

2) Which division sentence shows “How many groups of 2 fit in 14?”

- A. $2 \div 14$
- B. $14 + 2$
- C. 2×14
- D. $14 \div 2$

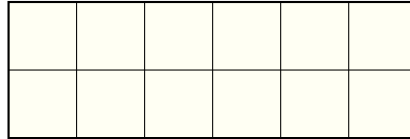
3) An L-shaped patio is shown with dashed decomposition lines:



Bottom: 7 ft by 3 ft. Top: 3 ft by 2 ft. What is the total area?

- A. 6 sq ft
- B. 27 sq ft
- C. 21 sq ft
- D. 42 sq ft

4)



How many unit squares are in this rectangle?

5) Ava has 6 bags of marbles. Each bag has the same number of marbles. She has 42 marbles in all. How many marbles are in each bag?

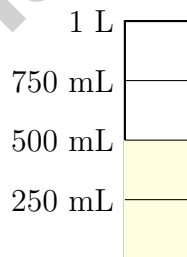
$$6 \times \square = 42$$

A. 9

B. 6

C. 8

D. 7



6)

Container

A liquid container is filled to the 750 mL line. How much more liquid is needed to reach 1 liter?

A. 100 mL

B. 150 mL

C. 250 mL

D. 750 mL



Scan me!
For more practice
& answers

7) Which is NOT equivalent to $\frac{1}{2}$?

- A. $\frac{2}{4}$
- B. $\frac{3}{6}$

- C. $\frac{2}{6}$
- D. $\frac{4}{8}$

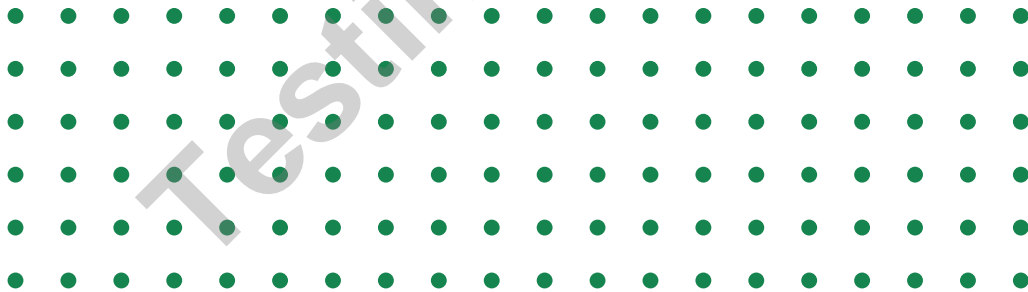
8) Which shows a correct tiling for $8 \times (3 + 4)$?

- A. Two rectangles: one 8×3 and one 8×4
- B. Two rectangles: one 3×4 and one 8
- C. One rectangle 8×7
- D. Two rectangles: one 8×8 and one 8×4

9) A school buys 9 boxes of crayons. They use 4 boxes in art class. Each remaining box has 10 crayons. How many crayons are left unused?

- A. 40
- B. 50
- C. 60
- D. 90

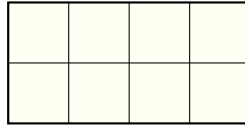
10) There are 6 rows of flowers. Each row has 20 flowers. How many flowers are there in total?



$$6 \times 20 = ?$$

- A. 26
- B. 62
- C. 120
- D. 1200

- 1) How many unit squares ($1\text{ cm} \times 1\text{ cm}$) are needed to cover a 4 cm by 2 cm rectangle?

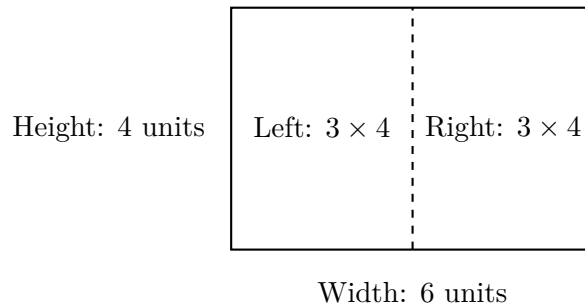


4 cm

- A. 6 unit squares
- B. 8 unit squares
- C. 10 unit squares
- D. 12 unit squares
- 2) A rectangular picture has an area of 35 square centimeters. Which dimensions could make this area?
- A. 5 cm and 7 cm
- B. 5 cm and 6 cm
- C. 4 cm and 8 cm
- D. 6 cm and 6 cm
- 3) A shape is made of two rectangles. Rectangle 1 has area 12 sq units, and Rectangle 2 has area 15 sq units. What is the total area?
- A. 15 sq units
- B. 24 sq units
- C. 27 sq units
- D. 180 sq units



1) Look at this rectangle split by a vertical line:



Which distributive equation matches?

A. $4 \times (3 + 3) = 4 \times 6 = 24$

C. $4 \times 3 \times 3 = 36$

B. $3 + 3 + 4 = 10$

D. $6 + 4 = 10$

2) Look at the pattern in the table. What is 8×10 ?

Problem	Product
3×10	30
5×10	50
7×10	70
8×10	?

A. 18

C. 810

B. 80

D. 108

3) A picture graph shows crayons. Each crayon symbol is 2 crayons. If there are 6 symbols in total and we remove 2 symbols, how many crayons remain?

A. 4

C. 10

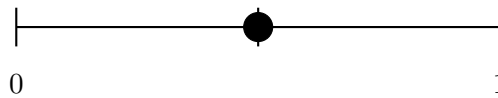
B. 8

D. 12



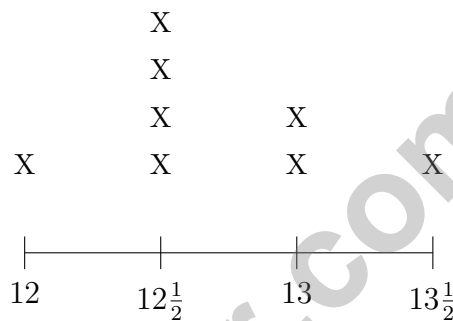
Scan me!
For more practice
& answers

4) The dot marks a point on this number line. What fraction is it?



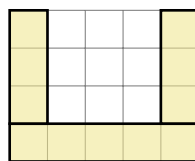
- A. $\frac{1}{1}$
 C. $\frac{1}{2}$
 B. $\frac{2}{2}$
 D. $\frac{1}{3}$

5) A line plot shows ruler lengths in inches: 12, $12\frac{1}{2}$, 13, $13\frac{1}{2}$.



What is the most frequent ruler length?

- A. 12 inches
 C. 13 inches
 B. $12\frac{1}{2}$ inches
 D. $13\frac{1}{2}$ inches
- 6) This grid shows a U-shaped figure made of unit squares. Count the squares carefully.



How many unit squares form this U-shape?

- A. 5 sq units
 C. 11 sq units
 B. 8 sq units
 D. 20 sq units

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.

Testinar.com



Scan me!
For more practice
& answers

Practice Test Answers and Explanations

Practice Test 1 Answers and Explanations

- Choice C is correct.** **(3.MD.5)** At 1 mm there are 4 X's, which is the highest count.
- Choice D is correct.** **(3.OA.2)** Measurement division finds how many groups. Divide the total by the group size.
- Choice B is correct.** **(3.MD.7)** Bottom: $7 \times 3 = 21$ sq ft. Top: $3 \times 2 = 6$ sq ft. Total: $21 + 6 = 27$ sq ft.
- The correct answer is 12 unit squares.** **(3.MD.8)** The rectangle is 6 units wide and 2 units tall: $6 \times 2 = 12$ unit squares.
- Choice D is correct.** **(3.OA.4)** Divide: $42 \div 6 = 7$ marbles per bag. Check: $6 \times 7 = 42$.
- Choice C is correct.** **(3.MD.2)** 1 L = 1000 mL. Subtract: $1000 - 750 = 250$ mL.
- Choice C is correct.** **(3.NF.3)** $\frac{1}{2} = \frac{2}{4} = \frac{3}{6} = \frac{4}{8}$. But $\frac{2}{6}$ simplifies to $\frac{1}{3}$, not $\frac{1}{2}$.
- Choice A is correct.** **(3.MD.9)** Both rectangles must have the same width 8, with lengths 3 and 4 that sum to 7.
- Choice B is correct.** **(3.OA.8)** Step 1: Remaining boxes: $9 - 4 = 5$ boxes. Step 2: Crayons in remaining boxes: $5 \times 10 = 50$ crayons. (Choice C is the answer to step 1 multiplied by 12; choice D is step 1 error times 10.)
- Choice C is correct.** **(3.NBT.3)** The array shows 6 rows with 20 items each: $6 \times 20 = 120$ items.
- Choice A is correct.** **(3.OA.3)** Multiply: 2 shelves \times 9 books per shelf = 18 books.
- Choice A is correct.** **(3.G.2)** $\frac{6}{2}$ means 6 halves. 2 halves make 1 whole, so $6 \div 2 = 3$ wholes. The bar is divided into 3 sections (thick lines).
- Choice C is correct.** **(3.MD.7)** Area is the space inside a shape (measured in square units). Perimeter is the distance around a shape (measured in regular units).
- Choice D is correct.** **(3.OA.6)** If $2 \times 8 = 16$, then $16 \div 2 = 8$ and $16 \div 8 = 2$. The division answers are the factors.
- Choices A and B are correct.** **(3.NF.1)** Choice A is correct because every unit fraction has a numerator of 1. Choice B is correct because the denominator tells how many equal parts the whole is divided into. Choice C is false because unit fractions can be added together. Choice D is false because $\frac{1}{8}$ is smaller than $\frac{1}{2}$. Choice E is false because the numerator of a unit fraction is always 1, not equal to the denominator.
- Choice A is correct.** **(3.OA.1)** Three packs with eight erasers each is 3 groups of 8, which equals $3 \times 8 = 24$ or $8 \times 3 = 24$. Option B is the addition misconception. Option C uses only one factor. Option D is incomplete (only two groups).
- The correct answer is 6.** **(3.NF.2)** The denominator doubles, so the numerator doubles: $3 \times 2 = 6$.
- Choice B is correct.** **(3.MD.1)** From 8 : 30 AM to 3 : 30 PM is 7 hours. School ends 15 minutes earlier, so the day is 6 hours 45 minutes.
- Choice C is correct.** **(3.NBT.1)** Numbers from 350 to 449 round to 400. The number 449 has tens $4 < 5$, so it rounds down to 400.
- Choice C is correct.** **(3.NF.3)** $\frac{3}{6}$ and $\frac{1}{2}$ both equal half of a whole.
- Choice B is correct.** **(3.MD.8)** Area = $4 \times 7 = 28$ square inches.
- Choice C is correct.** **(3.MD.7)** Count the rows: 5 rows. Count across: 6 tiles in each row. Total: $6 + 6 + 6 + 6 + 6 = 30$ unit square tiles are needed.
- Choice C is correct.** **(3.G.1)** A trapezoid is defined as a quadrilateral with exactly one pair of parallel sides.
- Choice B is correct.** **(3.MD.9)** Area = $3 \times 5 = 15$ square feet.
- Choice C is correct.** **(3.NF.1)** Eighths are small pieces, so $\frac{1}{8}$ is close to 0 compared to halves or thirds.
- Choice C is correct.** **(3.NF.2)** The dot is at the 5th mark out of 8 equal divisions, so the fraction is $\frac{5}{8}$.
- The correct answer is 45 students.** **(3.MD.4)** Soccer: $4 \times 5 = 20$. Basketball: $3 \times 5 = 15$. Kickball: $2 \times 5 = 10$. Total: $20 + 15 + 10 = 45$.
- Choice D is correct.** **(3.OA.9)** From 6 to 12 is +6; from 12 to 18 is +6; from 18 to 24 is +6.
- Choice B is correct.** **(3.NF.3)** With the same numerator, a LARGER denominator means SMALLER pieces. So $\frac{4}{8} < \frac{4}{6}$, not greater.
- Choice A is correct.** **(3.NBT.2)** Ones: $4 + 6 = 10$ (write 0, carry 1). Tens: $5 + 8 + 1 = 14$ (write 4, carry 1). Hundreds: $3 + 1 + 1 = 5$. Answer: 540.



Hi, Math Inventor!

◇ 7 practice tests. 7 chances to invent new ways to think. You tried things. You changed them. You made your math brain stronger! ◇

★ **Inventors know:** the first try isn't always the best try. Sometimes you fix it. Sometimes you start over. You did all of that! ★

Inventor's Workshop

- **Sketch Pad:** Full of ideas!
- **Toolbox:** Lots of math strategies.
- **Workbench:** Neat and organized.
- **Brave Mind:** You try new things.

Inventor tip: on test day, if your first try doesn't work, switch tools. Inventors don't get stuck on one tool. Pick the right one for the job!

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

Jay Daie

Your Math Inventor

PRACTICE TODAY. MASTER TOMORROW.

This book is designed to help **Grade 3** students strengthen their math skills through focused practice and real progress.

- ✓ 7 full-length practice tests
- ✓ Aligned to Grade 3 standards
- ✓ Build confidence and achieve success
- ✓ Review, answer keys, and explanations



EACH PRACTICE TEST INCLUDES:



Standards-
Aligned
Questions



Variety of
Question
Types



Real-World
Math
Applications



Step-by-Step
Progress
Tracking



Build Skills
and Boost
Confidence

COVERS ALL ESSENTIAL TOPICS

- ✓ Whole Numbers & Operations
- ✓ Fractions & Decimals
- ✓ Algebraic Thinking
- ✓ Geometry
- ✓ Measurement & Data
- ✓ Number Patterns
- ✓ Word Problems
- ✓ Ratio & Proportion
- ✓ Perimeter, Area & Volume
- ✓ Graphing & Data Analysis
- ✓ And More!



Visit testinar.com/math3
for more Grade 3 math resources
and practice materials!

PREPARE. PRACTICE. SUCCEED.

Give your child the **confidence** to excel in math!



Aligned to
Standards



Created by
Educators



Designed for
Success