

# 4

# Kentucky KSA

## Grade 3

# MATH

## PRACTICE TESTS

### Standards-Aligned Practice



#### STANDARDS-ALIGNED

Practice to build skills and boost confidence



#### 4 FULL-LENGTH TESTS

Realistic questions to prepare for test day



#### ANSWER KEYS & EXPLANATIONS

Detailed solutions to learn and improve



# 4 Kentucky KSA Grade 3 Math Practice Tests

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



Four focused 30-question missions for Grade 3 math: number facts, fractions, measurement, data, area, shapes, answer keys, and clear explanations for every item.

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# Welcome to the Kentucky Math Launch

Four missions, careful work, and a stronger Grade 3 thinker



Read the mission. Show the work. Check the answer. Launch again.

## To the Grade 3 Mission Leader

This book is a four-mission practice launch for the Kentucky KSA. Each test gives you a fresh chance to multiply, divide, read graphs, compare fractions, measure, find area, and explain math in a way someone else can follow.

Kentucky has bluegrass hills, river bends, and traditions built one careful step at a time. Good math uses the same habit: pause, check the details, and move forward with a steady plan.

### Notice

Find the numbers, units, and question before choosing a path.

### Model

Draw an array, number line, table, or quick equation.

### Verify

Ask whether your answer fits the story and the unit.

**Launch promise:** I will slow down at the important moments, show the work I can, and use every miss as a clue for the next mission.

# How to Use This Book

A four-mission routine for steady Grade 3 growth

## 1. Warm Up the System

Read the review pages first. Remind your brain how equal groups, fractions, clocks, graphs, and area models work.

## 2. Fly One Mission

Take one complete 30-question test. Keep your work neat enough that you can check it later.

## 3. Review the Flight

Use the answer key, then pause. A wrong answer is useful when you can name what happened.

## 4. Repair and Relaunch

Rework a few missed questions before starting the next test. The repair step is where the score begins to move.

### A Four-Session Plan

<b>Session 1</b>	Take Test 1 and mark the topics that need attention.
<b>Session 2</b>	Take Test 2 and focus on showing every step clearly.
<b>Session 3</b>	Take Test 3 and watch for units, labels, and two-step problems.
<b>Session 4</b>	Take Test 4 and finish with calm, careful checking.

**Best mission habit:** After checking answers, write one sentence: “Next time I will pay attention to \_\_\_\_\_.”



## Test Overview

### What each Grade 3 math mission asks you to do

Each practice test has 30 questions. Across four tests, you will practice the kind of Grade 3 math thinking used on the Kentucky KSA: reading carefully, choosing a strategy, doing accurate computation, and explaining enough work to make your answer clear.

#### Multiple Choice

Look for the best answer. Estimate first when you can, cross out choices that do not fit, and reread the question before you choose.

#### Open Response

Write the answer and show the reason. A good Grade 3 response may use a drawing, equation, table, number line, or a few clear words.

#### Math Ideas Inside the Four Tests

- multiplication, division, arrays, missing factors, and two-step word problems
- place value, rounding, addition, subtraction, and multiplying by tens
- unit fractions, number lines, equivalent fractions, and comparing fractions
- time, mass, liquid volume, picture graphs, bar graphs, and line plots
- area, perimeter, unit squares, rectangles, and shape categories

**What strong KSA work looks like:** the answer matches the question, the units make sense, and the work is clear enough to check.

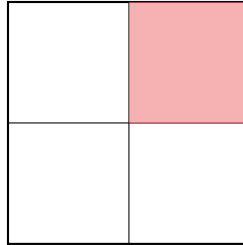


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- 1) A rectangle is divided into 2 equal parts vertically. Then it is divided into 2 equal parts horizontally making 4 smaller equal parts. What fraction is one small part?



- A.  $\frac{1}{2}$ 
 C.  $\frac{1}{3}$   
 B.  $\frac{1}{4}$ 
 D.  $\frac{2}{4}$
- 2) Which comparison is true?
- A.  $\frac{3}{2} > \frac{3}{3}$ 
 C.  $\frac{3}{2} = \frac{3}{3}$   
 B.  $\frac{3}{2} < \frac{3}{3}$ 
 D.  $\frac{3}{3} > \frac{3}{2}$
- 3)  $\frac{2}{3} = \frac{?}{6}$ . What number goes in the box?
- A. 3
  C. 5  
 B. 4
  D. 6
- 4) A bar graph shows inches of rainfall. Each unit on the scale represents 10 inches. If a bar is 3 units tall, how many inches of rainfall does it represent?



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10) A bottle holds 2000 milliliters of juice. A glass holds about 250 milliliters. Which is the BEST estimate of how many glasses can be filled from the bottle?

A. 2

C. 8

B. 4

D. 12

11) What is  $3 \times 80$ ? Write the multiplication fact and show how you add the zero.

12) A baker makes cookies for a party. She has 40 cookies to put into boxes of 5. How many boxes does she need?

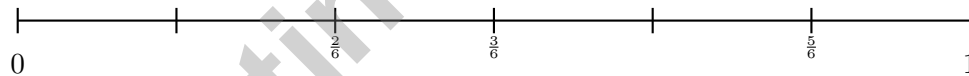
A. 6

C. 45

B. 7

D. 8

13) Which fraction is EQUAL to  $\frac{1}{2}$  on a number line with 6 equal parts?



A.  $\frac{2}{6}$

C.  $\frac{4}{6}$

B.  $\frac{3}{6}$

D.  $\frac{5}{6}$

14) Which is the same as  $5 \times (4 + 2)$ ?

A.  $5 \times 4 + 5 \times 2$

C.  $5 + 4 + 2$

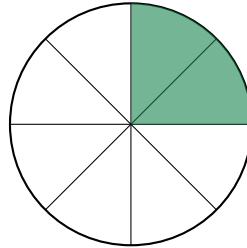
B.  $5 \times 4 + 2$

D.  $20 + 2$



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- 1) A pizza is cut into 8 equal slices. Noah eats 2 slices. What fraction of the pizza does Noah eat?



- A.  $\frac{1}{8}$                        C.  $\frac{3}{8}$   
 B.  $\frac{2}{8}$                        D.  $\frac{6}{8}$
- 2) Which is greater,  $5 \times 30$  or  $6 \times 20$ ?
- A.  $5 \times 30$                        C. They are equal  
 B.  $6 \times 20$                        D. Cannot be determined
- 3) Find  $35 \div 5$ .

- 4) Which comparison is true?

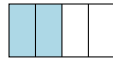
- A.  $\frac{3}{4} < \frac{3}{6}$                        C.  $\frac{3}{4} > \frac{3}{6}$  (same numerator,  $4 < 6$ )  
 B.  $\frac{3}{4} = \frac{3}{6}$                        D.  $\frac{3}{6} > \frac{3}{4}$  ( $6 > 4$ , so sixths are bigger)

- 5) Find  $30 \div 5$ .

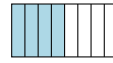


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6) Which rectangle shows  $\frac{2}{4}$  and  $\frac{4}{8}$  as equivalent?

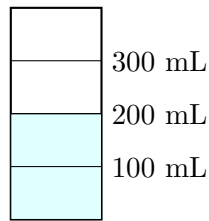


Rectangle A



Rectangle B

- A. Both rectangles                       C. Rectangle B only  
 B. Rectangle A only                       D. Neither rectangle

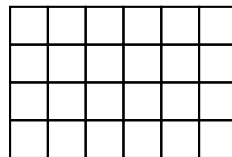


Cup

7)

The cup shows water at the 200 mL mark. What is the volume of water?

- A. 100 mL                                       C. 300 mL  
 B. 200 mL                                       D. 400 mL
- 8) A rectangle is made of 4 rows of unit squares. The total area is 24 square units. Look at the grid:



How many unit squares are in each row?

- A. 4 unit squares per row                       C. 6 unit squares per row  
 B. 8 unit squares per row                       D. 12 unit squares per row

1) Sam marks  $\frac{5}{8}$  and  $\frac{8}{8}$  on a number line from 0 to 1 divided into eighths. How far apart, in eighths, are these two points?

A. 3 eighths

C. 1 eighth

B. 5 eighths

D. 8 eighths

2) A number line from 0 to 1 is divided so that the unit fraction at the first tick is  $\frac{1}{3}$ . How long is the second tick from 0?

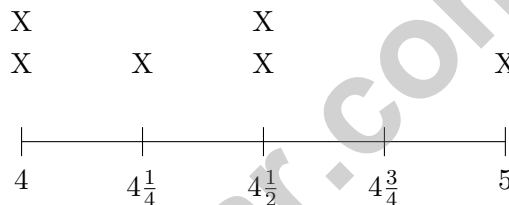
A.  $\frac{1}{3}$

C.  $\frac{1}{6}$

B.  $\frac{2}{3}$

D.  $\frac{3}{2}$

3) Ben measured the heights of clay pots in inches using quarters: 4,  $4\frac{1}{4}$ ,  $4\frac{1}{2}$ ,  $4\frac{3}{4}$ , 5.



How many pots are shorter than  $4\frac{1}{2}$  inches?

A. 1

C. 3

B. 2

D. 4

4) Ava covers a rectangular board with unit square tiles. The board is 7 units long and 7 units wide. How many tiles does she need?

A. 14 tiles

C. 42 tiles

B. 28 tiles

D. 49 tiles





## 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

- Choice B is correct.** **(3.G.A.2)** One vertical line and one horizontal line create 4 equal parts. One part is  $\frac{1}{4}$ .
- Choice A is correct.** **(3.NF.A.3d)** Three halves equals 1.5 (greater than one whole). Three thirds equals 1 (exactly one whole). So  $\frac{3}{2} > \frac{3}{3}$ .
- Choice B is correct.** **(3.NF.A.3b)** The denominator was multiplied by 2 (from 3 to 6). Multiply the numerator by 2:  $2 \times 2 = 4$ . So  $\frac{2}{3} = \frac{4}{6}$ .
- The correct answer is 30 inches.** **(3.MD.B.3)** Multiply the units by the scale value:  $3 \times 10 = 30$  inches.
- Choice B is correct.** **(3.G.A.1)** A square must have both 4 equal sides AND 4 right angles. If a shape has 4 equal sides but no right angles, it is a rhombus, not a square.
- Choice D is correct.** **(3.NF.A.3c)**  $\frac{3}{1} = 3$  wholes. Any number divided by 1 equals itself.
- Choice D is correct.** **(3.OA.A.4)** The picture shows 3 groups with 5 circles in each group, so the matching equation is  $3 \times 5 = \square$ .
- Choice A is correct.** **(3.NBT.A.1)** The ones digit is 2. Since  $2 < 5$ , round down: 472 rounds to 470.
- Choice A is correct.** **(3.OA.B.6)** To solve  $42 \div 7 = \square$  using the unknown-factor strategy, we ask:  $\square \times 7 = 42$ . Since  $6 \times 7 = 42$ , the missing factor is 6. Options B, C, D produce different products, not 42.
- Choice C is correct.** **(3.MD.A.2)** Divide:  $2000 \div 250 = 8$  glasses.
- The correct answer is 240.** **(3.NBT.A.3)**  $3 \times 8 = 24$ , then add one zero to get 240:  $3 \times 80 = 240$ .
- Choice D is correct.** **(3.OA.A.2)** Measurement division:  $40 \div 5 = 8$ . There are 8 groups of 5 in 40.
- Choice B is correct.** **(3.NF.A.2)**  $\frac{3}{6}$  and  $\frac{1}{2}$  mark the same point: the middle of the line.
- Choice A is correct.** **(3.OA.B.5)** The distributive property says  $5 \times (4 + 2) = 5 \times 4 + 5 \times 2 = 20 + 10 = 30$ .
- Choice C is correct.** **(3.MD.C.5)** Square:  $8 \times 8 = 64$  square units. Rectangle:  $4 \times 16 = 64$  square units. Many different shapes can have the same area.
- Choice C is correct.** **(3.MD.C.5a)** The rectangle is  $4 \times 3 = 12$  unit squares.
- Choices A and C are correct.** **(3.OA.D.8)** Multiply tables by chairs per table:  $9 \times 4 = 36$ . Then add:  $36 + 8 = 44$ . Choices A and C both correctly compute  $(9 \times 4) + 8 = 44$ . Choice B adds all three numbers (incorrect order). Choice D applies order of operations wrong. Choice E adds first then multiplies (wrong method).
- Choice C is correct.** **(3.MD.B.4)** Add all X's:  $1 + 3 + 2 + 4 = 10$  stems total.
- Choice B is correct.** **(3.MD.C.5b)**  $8 \times 4 = 32$  square units.
- Choice B is correct.** **(3.NF.A.2b)** Point  $T$  is at the second tick of three equal parts from 0. That is  $\frac{2}{3}$ .
- Choice A is correct.** **(3.MD.C.7c)**  $35 = 7 \times 5$  and  $21 = 7 \times 3$ , so total is  $7 \times (5 + 3) = 7 \times 8 = 56$ .
- Choice A is correct.** **(3.NF.A.1)** The rectangle is divided into 4 equal parts. Even though the shading might look uneven, one complete part is shaded, which is  $\frac{1}{4}$ .
- The correct answer is 24.** **(3.OA.A.3)**  $6 \times 4 = 24$ .
- Choice B is correct.** **(3.MD.C.7a)** Playground:  $6 \times 5 = 30$  tiles. Real-world context.
- Choice A is correct.** **(3.MD.C.6)**  $4 \times 4 = 16$  sq in. The other choices do not equal 16.
- Choice D is correct.** **(3.MD.C.7d)** Top:  $5 \times 3 = 15$  sq ft. Bottom:  $4 \times 2 = 8$  sq ft. Total:  $15 + 8 = 23$  sq ft.
- Choice A is correct.** **(3.NBT.A.2)** Ones:  $0 - 6$  requires regrouping, so  $10 - 6 = 4$ . Tens:  $3 - 8$  requires regrouping, so  $13 - 8 = 5$  (after regrouping). Hundreds:  $4 - 1 = 3$  (after regrouping). Answer: 354.
- Choice A is correct.** **(3.OA.A.1)** 3 groups of 4 means three separate groups, each with 4 objects. Choice A shows three groups with 4 stars in each.
- Choice D is correct.** **(3.MD.C.7)** The grid shows 5 columns and 2 rows. Area =  $5 \times 2 = 10$  square units. You can also count:  $5 + 5 = 10$  (two rows of five).
- Choice D is correct.** **(3.OA.C.7)**  $6 \times 8 = 48$ . You can think of 6 groups of 8, or 8 groups of 6.



Notes From the Math Gardener

## Hi, Math Gardener!

◇ Look at how much you grew! 4 tests is like 4 weeks of taking care of your math garden. Every problem was a seed. Every try was water. ◇

★ **Gardeners say:** growth takes time. You can't see roots, but they are there. You can't always feel smarter, but you are. Your math garden is full! ★

### Garden Check-Up

- **Roots:** STRONG! Your basic math is solid.
- **Stems:** STURDY! You can do step-by-step problems.
- **Leaves:** GREEN! You have lots of math tools.
- **Flowers:** BRIGHT! You feel proud of your work.

**Gardener tip:** keep watering your math garden long after the test. Every habit you built will grow with you for years!

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 Gardener

# Build Skills. Achieve More.

This book gives **Grade 3** students the focused practice they need to master math concepts with confidence.

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