

# 8

FULL-LENGTH

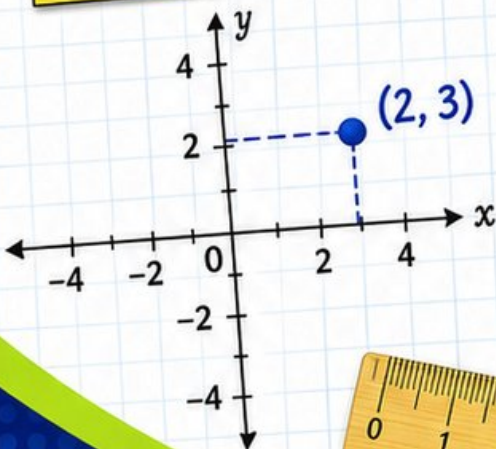
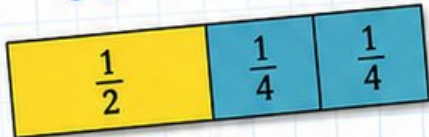
# Minnesota MCA III

# GRADE 5

# MATH PRACTICE TESTS

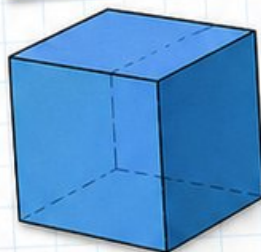
Mixed Practice Questions with Answer Key  
for Students, Parents, and Teachers

$$36 \div 4 = 9$$



$$2.4 \times 7 = 16.8$$

$$7 \times (12 - 5) = 49$$

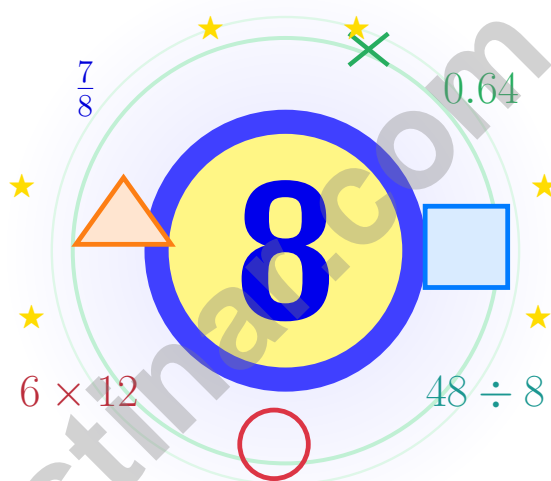


1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50
51	52	53	54	55	56	57	58	59	60
61	62	63	64	65	66	67	68	69	70
71	72	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	90
91	92	93	94	95	96	97	98	99	100



# 8 Minnesota MCA-III Grade 5 Math Practice Tests

*Seven steps, seven growth checks, one calm routine*



Eight full tests, a focused quick review, and helpful support that turns Grade 5 practice in The Land of 10,000 Lakes into steady, confident growth from page one to the final check.

Jay Daie and Reza Nazari



# Copyright ©

## Testinar Inc



Published by Testinar Inc

[Testinar.com](http://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 ©*

# Minnesota, Steady Practice Starts Here

Eight full tests, seven lessons, one stronger mathematician

## To Every Math Brain in Minnesota

This practice book is your steady companion for eight tests, not a place to be perfect. Math practice is like canoeing the Boundary Waters – balanced strokes, patient eyes, and a calm trust in the route.

Use these eight tests like stepping-stones. Take one test at a time, check your answers honestly, and notice which skills need more attention. Small improvements add up across seven rounds.

### Read

Read every word twice and underline what is asked.

### Solve

Choose the cleanest method and show your steps.

### Reflect

Look back to find what worked and what to fix.

**A strong habit for Minnesota mathematicians:** read carefully, estimate when it helps, show your steps, and keep going even when a question feels tricky. That is how steady math confidence is built.

Testinar.com



Scan me



# Use This Book Like a Trail Guide

A simple routine that turns practice into progress

## Step 1: Power Up

**Sharpen your math brain with the quick review.**

Spend a few minutes waking up your memory before the test begins.

## Step 2: Trail Run

**Take a full practice test in a quiet spot.**

Work in a calm spot and focus on careful thinking before speed.

## Step 3: Debrief

**Score honestly and circle missed questions.**

Circle missed questions and notice which topics keep showing up.

## Step 4: Repair

**Fix the missed work and lock the lesson in.**

Read the explanation, repair the work, and bring that lesson into the next test.



# Table of Contents

★ Practice Test 1	_____	21
★ Practice Test 2	_____	35
★ Practice Test 3	_____	49
★ Practice Test 4	_____	65
★ Practice Test 5	_____	80
★ Practice Test 6	_____	95
★ Practice Test 7	_____	109
★ Practice Test 8	_____	123
<b>Practice Test Answer Keys</b>	_____	<b>138</b>
<b>Practice Test Answers and Explanations</b>	_____	<b>143</b>

## Grade 5 Mathematics Reference Materials

### PERIMETER AND AREA

Perimeter of Rectangle  $P = 2l + 2w$  or  $P = 2(l + w)$

Area of Rectangle  $A = l \times w$

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

Volume of Rectangular Prism  $V = l \times w \times h$

### LENGTH

#### Customary

1 foot (ft) = 12 inches (in.)

1 yard (yd) = 3 feet (ft)

1 yard (yd) = 36 inches (in.)

#### Metric

1 meter (m) = 100 centimeters (cm)

1 centimeter (cm) = 10 millimeters (mm)

1 kilometer (km) = 1,000 meters (m)

### CAPACITY

#### Customary

1 cup (c) = 8 fluid ounces (fl oz)

1 pint (pt) = 2 cups (c)

1 quart (qt) = 2 pints (pt)

1 gallon (gal) = 4 quarts (qt)

#### Metric

1 liter (L) = 1,000 milliliters (mL)

### WEIGHT AND MASS

#### Customary

1 pound (lb) = 16 ounces (oz)

#### Metric

1 kilogram (kg) = 1,000 grams (g)

1 gram (g) = 1,000 milligrams (mg)

### TIME

1 minute (min) = 60 seconds (sec)    1 week = 7 days

1 hour (hr) = 60 minutes (min)    1 year = 12 months

1 day = 24 hours (hr)    1 year = 52 weeks



1) A bar shows one third split into 4 equal parts. Which equation matches the model?

A.  $4 \div \frac{1}{3} = ?$

C.  $\frac{1}{3} \div 4 = ?$

B.  $\frac{1}{3} \times 4 = ?$

D.  $4 - \frac{1}{3} = ?$

2) Which pattern rule creates the ordered pairs (1, 3), (2, 6), (3, 9), and (4, 12)?

 A. Add 2 to the input. C. Multiply the input by itself. B. Multiply the input by 3. D. Double the input, then add 1.

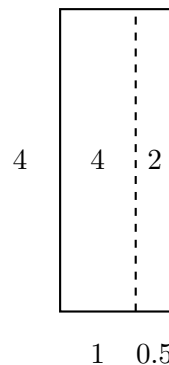
3) What is  $12 \div \frac{1}{2}$ ?

 A. 6 C. 18 B. 12 D. 24

4) Which fraction is equivalent to  $\frac{1}{4}$  with denominator 12?

 A.  $\frac{1}{12}$  C.  $\frac{4}{12}$  B.  $\frac{3}{12}$  D.  $\frac{6}{12}$ 

5) An area model shows multiplication. What is  $1.5 \times 4$ ?

 A. 5 C. 6 B. 5.5 D. 6.5

6) A garden path is 150 meters long. What is this distance in kilometers?

A. 0.15 km

C. 15 km

B. 1.5 km

D. 150 km

7) A cube has side length 7 cm. What is its volume?

*Record your answer in the space provided.*

8) Tailor has two cloth pieces:  $3\frac{2}{5}$  yd and  $2\frac{3}{5}$  yd. Total?

A. 5 yd

C.  $6\frac{1}{5}$  yd

B. 6 yd

D.  $6\frac{3}{5}$  yd

9) Which decimal number correctly matches the word form “zero and three hundred twenty-one thousandths”?

A. 0.321

C. 321

B. 0.021

D. 3.21

10) Which pair of fractions will have an LCD of 60?

A.  $\frac{1}{3}$  and  $\frac{1}{4}$

C.  $\frac{3}{5}$  and  $\frac{7}{12}$

B.  $\frac{2}{5}$  and  $\frac{3}{4}$

D.  $\frac{1}{2}$  and  $\frac{1}{3}$

11) A ribbon is 5 yards long. Each strip is one half yard. Which division equation matches the situation?

A.  $\frac{1}{2} \div 5 = n$

C.  $5 \div \frac{1}{2} = n$

B.  $5 \times \frac{1}{2} = n$

D.  $5 + \frac{1}{2} = n$



## Grade 5 Mathematics Reference Materials

### PERIMETER AND AREA

Perimeter of Rectangle  $P = 2l + 2w$  or  $P = 2(l + w)$

Area of Rectangle  $A = l \times w$

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

Volume of Rectangular Prism  $V = l \times w \times h$

### LENGTH

#### Customary

1 foot (ft) = 12 inches (in.)

1 yard (yd) = 3 feet (ft)

1 yard (yd) = 36 inches (in.)

#### Metric

1 meter (m) = 100 centimeters (cm)

1 centimeter (cm) = 10 millimeters (mm)

1 kilometer (km) = 1,000 meters (m)

### CAPACITY

#### Customary

1 cup (c) = 8 fluid ounces (fl oz)

1 pint (pt) = 2 cups (c)

1 quart (qt) = 2 pints (pt)

1 gallon (gal) = 4 quarts (qt)

#### Metric

1 liter (L) = 1,000 milliliters (mL)

### WEIGHT AND MASS

#### Customary

1 pound (lb) = 16 ounces (oz)

#### Metric

1 kilogram (kg) = 1,000 grams (g)

1 gram (g) = 1,000 milligrams (mg)

### TIME

1 minute (min) = 60 seconds (sec)    1 week = 7 days

1 hour (hr) = 60 minutes (min)    1 year = 12 months

1 day = 24 hours (hr)    1 year = 52 weeks



1) What is  $3 \times \frac{5}{6}$ ?

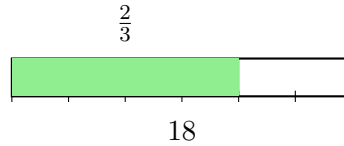
A.  $2\frac{1}{2}$

B.  $\frac{5}{18}$

C.  $\frac{8}{6}$

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

2) Find  $\frac{2}{3}$  of 18.



A. 6

B. 9

C. 12

D. 18

3) Compare the products: Which is larger,  $\frac{1}{2} \times \frac{4}{5}$  or  $\frac{2}{3} \times \frac{3}{4}$ ?

A.  $\frac{1}{2} \times \frac{4}{5}$

 B. Cannot determine

 C. They are equal

D.  $\frac{2}{3} \times \frac{3}{4}$

4) Which statement is true?

A.  $5.2 \div 100 = 0.052$

B.  $5.2 \div 10 = 5.2$

C.  $5.2 \div 10 = 52$

D.  $5.2 \div 10 = 0.052$

5) Ms. Chen uses  $\frac{9}{10}$  meter of blue ribbon and  $\frac{8}{11}$  meter of red ribbon. Estimate the total meters of ribbon.

A. About 0.5 meter

B. About 1 meter

C. About 1.5 meters

D. About 2 meters



## Grade 5 Mathematics Reference Materials

### PERIMETER AND AREA

Perimeter of Rectangle  $P = 2l + 2w$  or  $P = 2(l + w)$

Area of Rectangle  $A = l \times w$

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

Volume of Rectangular Prism  $V = l \times w \times h$

### LENGTH

#### Customary

1 foot (ft) = 12 inches (in.)

1 yard (yd) = 3 feet (ft)

1 yard (yd) = 36 inches (in.)

#### Metric

1 meter (m) = 100 centimeters (cm)

1 centimeter (cm) = 10 millimeters (mm)

1 kilometer (km) = 1,000 meters (m)

### CAPACITY

#### Customary

1 cup (c) = 8 fluid ounces (fl oz)

1 pint (pt) = 2 cups (c)

1 quart (qt) = 2 pints (pt)

1 gallon (gal) = 4 quarts (qt)

#### Metric

1 liter (L) = 1,000 milliliters (mL)

### WEIGHT AND MASS

#### Customary

1 pound (lb) = 16 ounces (oz)

#### Metric

1 kilogram (kg) = 1,000 grams (g)

1 gram (g) = 1,000 milligrams (mg)

### TIME

1 minute (min) = 60 seconds (sec)    1 week = 7 days

1 hour (hr) = 60 minutes (min)    1 year = 12 months

1 day = 24 hours (hr)    1 year = 52 weeks

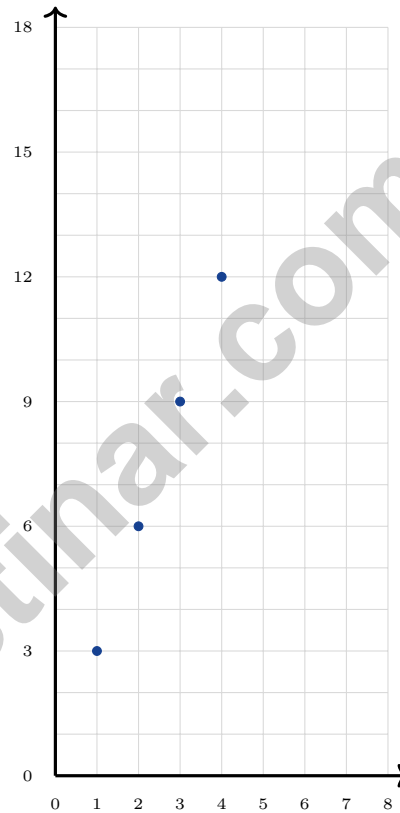


1) A paint container holds  $\frac{1}{6}$  litre. This paint is to be divided equally among 3 artists. How much paint does each artist get?

- A.  $\frac{1}{2}$  litre  
 B.  $\frac{1}{18}$  litre

- C.  $\frac{1}{6}$  litre  
 D.  $\frac{1}{3}$  litre

2) Which of the following points has a second coordinate that is 3 times the first coordinate?



- A. (2, 5)  
 B. (3, 9)

- C. (4, 10)  
 D. (5, 16)



## Grade 5 Mathematics Reference Materials

### PERIMETER AND AREA

Perimeter of Rectangle  $P = 2l + 2w$  or  $P = 2(l + w)$

Area of Rectangle  $A = l \times w$

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

Volume of Rectangular Prism  $V = l \times w \times h$

### LENGTH

#### Customary

1 foot (ft) = 12 inches (in.)

1 yard (yd) = 3 feet (ft)

1 yard (yd) = 36 inches (in.)

#### Metric

1 meter (m) = 100 centimeters (cm)

1 centimeter (cm) = 10 millimeters (mm)

1 kilometer (km) = 1,000 meters (m)

### CAPACITY

#### Customary

1 cup (c) = 8 fluid ounces (fl oz)

1 pint (pt) = 2 cups (c)

1 quart (qt) = 2 pints (pt)

1 gallon (gal) = 4 quarts (qt)

#### Metric

1 liter (L) = 1,000 milliliters (mL)

### WEIGHT AND MASS

#### Customary

1 pound (lb) = 16 ounces (oz)

#### Metric

1 kilogram (kg) = 1,000 grams (g)

1 gram (g) = 1,000 milligrams (mg)

### TIME

1 minute (min) = 60 seconds (sec)    1 week = 7 days

1 hour (hr) = 60 minutes (min)    1 year = 12 months

1 day = 24 hours (hr)    1 year = 52 weeks





## Practice Test Answer Keys

### How to use this section:

1. check your answer
2. circle missed questions
3. rework them before reading the explanation

**Good correction habits build strong scores.**

Testinar.com



Scan me

## Practice Test Answers and Explanations

### Practice Test 1 Answers and Explanations

- 1) **Choice C is correct.** (5.1.3.4) The amount being shared is one third, and it is split into 4 equal parts. So the matching division equation is  $\frac{1}{3} \div 4 = ?$ .
- 2) **Choice B is correct.** (5.1.3.4) Check the pattern in the pairs:  $1 \times 3 = 3$ ,  $2 \times 3 = 6$ ,  $3 \times 3 = 9$ , and  $4 \times 3 = 12$ .
- 3) **Choice D is correct.** (5.4.1.2)  $12 \div \frac{1}{2} = 12 \times 2 = 24$ .
- 4) **Choice B is correct.** (5.4.1.2) The denominator 4 is multiplied by 3 to make 12. Multiply the numerator by 3 also:  $\frac{1}{4} = \frac{3}{12}$ .
- 5) **Choice C is correct.** (5.1.2.3) The model shows:  $1 \times 4 = 4$  and  $0.5 \times 4 = 2$ . Total:  $4 + 2 = 6$ .
- 6) **Choice A is correct.** (5.4.1.2) 1 km = 1,000 m. Divide:  $150 \div 1000 = 0.15$  km.
- 7) **The correct answer is 343 cm<sup>3</sup>.** (5.4.1.2) A cube has the same side length in every direction. So the volume is  $7 \times 7 \times 7 = 343$  cm<sup>3</sup>.
- 8) **Choice B is correct.** (5.3.2.4) Add:  $3\frac{2}{5} + 2\frac{3}{5} = 5\frac{5}{5} = 6$  yd.
- 9) **Choice A is correct.** (5.1.2.3) “Zero and three hundred twenty-one thousandths” means  $0 + \frac{321}{1000}$ , which is 0.321.
- 10) **Choice C is correct.** (5.1.1.1) Multiples of 5: 5, 10, 15, 20, 25, 30, 35, 40, 45, 50, 55, 60. Multiples of 12: 12, 24, 36, 48, 60. The first common multiple is 60. Choices A and D have LCDs 12 and 6, and Choice B has LCD 20.
- 11) **Choice C is correct.** (5.1.3.4) Use total amount divided by the size of one piece. The equation is  $5 \div \frac{1}{2} = n$ .
- 12) **Choice C is correct.** (5.1.3.4) Both points have the same y-coordinate (6), which means they lie on a horizontal line at height 6.
- 13) **Choice A is correct.** (5.3.2.4)  $V = 10 \times 4 \times 7 = 280$  ft<sup>3</sup>.
- 14) **Choice C is correct.** (5.2.2.1) Evaluate inside each set of parentheses:  $4 \times 5 = 20$  and  $12 \div 3 = 4$ . Then add:  $20 + 4 = 24$ .
- 15) **Choice A is correct.** (5.2.2.1)  $\frac{1}{10} \div 3 = \frac{1}{10} \times \frac{1}{3} = \frac{1}{30}$ .
- 16) **Choice D is correct.** (5.1.2.1) Compare the tenths place first: 0.25 has 2 tenths and 0.52 has 5 tenths. Since  $5 > 2$ , we know  $0.52 > 0.25$ .
- 17) **Choice D is correct.** (5.1.2.1) Dividing by 10 moves the decimal one place left, so 15.04 becomes 1.504.
- 18) **Choice C is correct.** (5.1.2.2) The base  $\overline{AB}$  lies on  $y = 3$ . Point  $C$  is at  $y = 7$ , so it is  $7 - 3 = 4$  units above the base.
- 19) **Choice A is correct.** (5.2.2.1) First divide the cupcakes equally:  $24 \div 6$  per box. Then 2 cupcakes are removed from each box, so subtract 2 after dividing.
- 20) **Choice A is correct.** (5.1.3.4) Each shelf has 8 eighth-shelf spaces.  $5 \div \frac{1}{8} = 5 \times 8 = 40$  sets.
- 21) **Choices A and B are correct.** (5.1.3.4) A and B are true. For powers of 10, the exponent tells how many zeros come after the 1, so  $10^5 = 100,000$  and  $10^1 = 10$ .
- 22) **The correct answer is 4.** (5.3.1.1) A square is a quadrilateral, a rectangle, a rhombus, and a parallelogram.
- 23) **Choice A is correct.** (5.4.1.2) Since 8 fl oz = 1 cup, divide 24 by 8:  $24 \div 8 = 3$  cups.
- 24) **Choice B is correct.** (5.2.2.1) To make an expression 10 times as much, multiply the entire expression by 10. That is why  $10 \times (24 \div 4)$  matches.
- 25) **Choice D is correct.** (5.1.3.4) The pieces longer than 1 inch are two pieces of  $1\frac{1}{4}$  inches and one piece of  $1\frac{1}{2}$  inches. Their total is  $1\frac{1}{4} + 1\frac{1}{4} + 1\frac{1}{2} = 4$  inches.
- 26) **Choice A is correct.** (5.3.1.1) An equilateral triangle has all three sides of equal length and all three angles equal to  $60^\circ$ .
- 27) **Choice C is correct.** (5.1.1.4)  $2,145 \div 65 = 33$  cupcakes per order. Check:  $65 \times 33 = 2,145$ .
- 28) **Choice B is correct.** (5.1.3.4)  $\frac{1}{5} = \frac{2}{10}$ ,  $\frac{8}{10} - \frac{2}{10} = \frac{6}{10} = \frac{3}{5}$ .
- 29) **Choice D is correct.** (5.3.1.1) A parallelogram has two pairs of parallel sides. Figure D has two pairs of opposite sides parallel; Figures A, B, and C do not.



## Captain of Your Own Math Plane,

◇ 8 practice tests behind you. That's many flights logged in your math airplane. You've handled clear weather, turbulence, tricky landings, and long routes. You're a real pilot now. ◇

★ **Pilots know:** a good pre-flight check makes for a good flight. Before each test problem, do your check: read the question, look at the numbers, pick a strategy. That short check makes the rest of the flight smooth. ★

### Flight Crew Skills

- **Pre-flight Check:** CONSISTENT! You read questions carefully.
- **Navigation:** STRONG! You pick a clear strategy.
- **Steady Flight:** STEADY! You stay calm through long tests.
- **Landing:** SHARP! You always check your final answer.

**Pilot's tip:** on test day, don't fly the whole flight in your head before takeoff. Just take off. Then handle one problem at a time. Trust your training. You've earned your wings.

If you want to share a proud moment or ask a question, please email me at [jay@testinar.com](mailto:jay@testinar.com). I'd love to hear from you!

**Jay Daie**

Your Math Pilot (Clear Skies Ahead)

$45 \div 5 = ?$

# PRACTICE TODAY.

$\frac{3}{5} + \frac{1}{10} = ?$



## ACHIEVE TOMORROW!



$3^2 + 4^2 = 25$

This book includes **8** full-length **Grade 5** math practice tests to help students master essential skills, build confidence, and achieve success. Each test is carefully designed to reflect real math standards and cover a variety of question types with detailed answer explanations.

$7x - 4 = 17$

$1\frac{1}{2} + 2\frac{1}{3} = ?$

## 8 FULL-LENGTH MATH PRACTICE TESTS



### REALISTIC PRACTICE

Tests mirror Grade 5 math standards and real assessment formats.



### ANSWER KEY INCLUDED

Detailed answer explanations help students understand and learn.



### BUILD CONFIDENCE & SKILLS

Strengthens problem-solving abilities and reinforces key math concepts.



### IMPROVE & TRACK PROGRESS

Identify strengths and focus on areas that need improvement.



### ACHIEVE SUCCESS

Boosts test readiness and helps students achieve their best results.

### COVERS ALL KEY GRADE 5 MATH 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/math5](https://testinar.com/math5)

for more Grade 5 math resources and practice materials!



TRUSTED BY PARENTS



CREATED BY EDUCATORS



ALIGNED TO STANDARDS

Great for Students, Parents, and Teachers!

Practice with purpose. Succeed with confidence!