

5

FULL-LENGTH

Iowa ISASP

GRADE 5 MATH

★ PRACTICE TESTS ★



**5 FULL-LENGTH
PRACTICE TESTS**



**COMPLETE
STANDARDS
REVIEW**



**SKILL PRACTICE,
WORD PROBLEMS,
AND MORE!**

$$\frac{3}{4} + \frac{2}{4} = \frac{5}{4}$$



$$12 \times 3 = 36$$



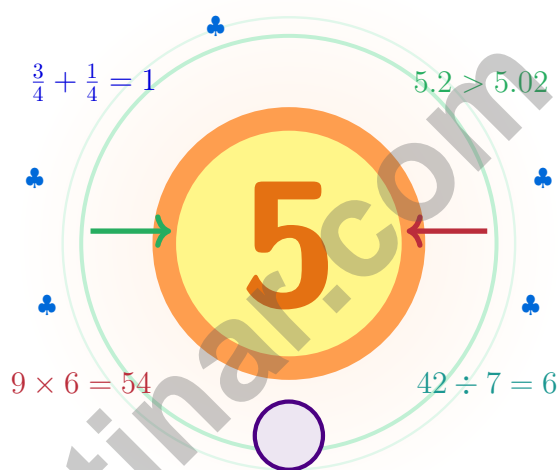
$$\frac{7}{10} = 0.7$$



BUILT FOR SUCCESS. DESIGNED TO HELP EVERY STUDENT.

5 Iowa ISASP Grade 5 Math Practice Tests

A five-checkpoint expedition for curious Grade 5 thinkers



Five full tests, a friendly quick review, smart strategy pages, and student-tested support that turn Grade 5 practice in The Hawkeye State into a steady quest of real growth.

Jay Daie and Reza Nazari



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Suit Up, Iowa – Five Checkpoints Ahead

A five-checkpoint expedition for curious Grade 5 thinkers

For Every Curious Mind in Iowa

This book is your practice zone, not a place to be perfect. Each of the five tests gives you a chance to notice clues, choose a strategy, check your thinking, and come back stronger for the next round. Strong math practice grows the way a cornfield grows – in tidy rows, with patience, and one steady season at a time.

Some questions will feel easy right away. Some will make you slow down, draw, estimate, or retry. That is excellent news. It means your math brain is doing real work.

See

See the whole question
before you start the
math.

Plan

Plan one careful step
before the next.

Reflect

Reflect on what worked
and what wobbled.

A strong quest habit for Iowa: slow down, write neatly, estimate before you solve, and keep going even when a problem looks tricky at first. That is exactly how confident math students are built.

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Five Tests, Five Lessons

A simple routine that turns five tests into real growth

Step 1: Open

Open the warm-up review and use it.

Wake up important ideas before you begin so your brain is ready to use them.

Step 2: Test

Take the test with steady focus.

Find a quiet space, work carefully, and let accuracy matter more than speed.

Step 3: Reflect

Notice what was sharp and what was shaky.

Circle missed questions and look for patterns. Which skill or habit needs another try?

Step 4: Sharpen

Practice the shaky skills before the next round.

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

A Five-Week Iowa Quest Map

Week	Mission Focus
Week 1	Take Test 1 and plant the first row carefully.
Week 2	Take Test 2 and notice one habit that grew stronger.
Week 3	Take Test 3 and tend fractions, decimals, and conversions.
Week 4	Take Test 4 and slow down on multi-step word problems.
Week 5	Take Test 5 and harvest your habits with calm, careful work.



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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)

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Metric

1 meter (m) = 100 centimeters (cm)

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CAPACITY

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

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Metric

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

WEIGHT AND MASS

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1 pound (lb) = 16 ounces (oz)

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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 teacher graphs papers checked. The x-axis shows minutes, and the y-axis shows papers checked. What does the point (10, 50) mean?

- A. papers checked is 50 when minutes is 10
- B. minutes is 50 when papers checked is 10
- C. minutes and papers checked are both 60
- D. papers checked is 10 when minutes is 50

2) Where should parentheses be placed to make the expression equal 20?

$$6 + 4 \times 2$$

- A. $(6 + 4) \times 2$
- B. $6 + (4 \times 2)$
- C. $6 \times (4 + 2)$
- D. $(6 \times 4) + 2$
- 3) A quadrilateral has two pairs of parallel sides and four right angles, but not all sides are the same length. What is it?

- A. Rectangle
- B. Parallelogram
- C. Square
- D. Rhombus

4) Which calculation is correct?

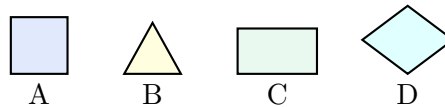
- A. $5.4 \div 10 = 0.54$
- B. $5.4 \div 100 = 54$
- C. $5.4 \div 10 = 54$
- D. $54 \div 1000 = 0.54$



- 5) A class reward chart tracks two patterns. Tickets start at 20 and add 5 each week. Points start at 4 and add 1 each week. Which relationship is shown?

Week	Tickets	Points
0	20	4
1	25	5
2	30	6
3	35	7

- A. Tickets are 5 times the points each week
 - B. Tickets are 4 times the points each week
 - C. Points are 5 times the tickets each week
 - D. Tickets and points are equal each week
- 6) A composite garden block is made from two non-overlapping rectangular prisms. Prism A is 8 centimeters long, 2 centimeters wide, and 4 centimeters tall. Prism B is 3 centimeters long, 3 centimeters wide, and 4 centimeters tall. What is the total volume?
- A. 100 cubic centimeters
 - B. 64 cubic centimeters
 - C. 36 cubic centimeters
 - D. 116 cubic centimeters
- 7) A triangle has sides of 4 cm, 7 cm, and 9 cm. What type of triangle is it based on its sides?
- A. Scalene
 - B. Equilateral
 - C. Isosceles
 - D. Right
- 8) The figures below are labeled A-D. Which figure is a parallelogram but not a rectangle?



- A. Figure A
- B. Figure B
- C. Figure C
- D. Figure D



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1) Which statement correctly compares the place values?

- | | |
|--|--|
| <input type="checkbox"/> A. A digit in the hundredths place is 10 times greater than in the thousandths place. | <input type="checkbox"/> C. A digit in the ones place is 100 times greater than in the tenths place. |
| <input type="checkbox"/> B. A digit in the tenths place is 10 times greater than in the ones place. | <input type="checkbox"/> D. A digit in the hundreds place is 10 times greater than in the thousands place. |

2) Which point lies on the x-axis?



- | | |
|-------------------------------|---------------------------------------|
| <input type="checkbox"/> A. P | <input type="checkbox"/> C. R |
| <input type="checkbox"/> B. Q | <input type="checkbox"/> D. All three |



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- 1) Compare: 7.4×10 and 74×1 . Which is true?
- A. $7.4 \times 10 < 74 \times 1$ C. $7.4 \times 10 > 74 \times 1$
 B. $7.4 \times 10 = 74 \times 1$ D. Cannot compare
- 2) A toy store inventory shows $\frac{2}{11}$ of the items are toys and $\frac{3}{11}$ are games. What fraction of the inventory is other items?
- A. $\frac{1}{11}$ C. $\frac{6}{11}$
 B. $\frac{5}{11}$ D. $\frac{9}{11}$
- 3) A painter mixed $9\frac{1}{3}$ gallons of blue paint and $4\frac{2}{3}$ gallons of red paint. How much more blue paint is there than red paint?
- A. $4\frac{2}{3}$ gal C. $5\frac{1}{3}$ gal
 B. 5 gal D. $5\frac{2}{3}$ gal
- 4) A box holds 12 bags of 8 crayons each. Which expression represents total crayons?
- A. $12 + 8$ C. $12 - 8$
 B. 12×8 D. $12 \div 8$
- 5) In a pizza restaurant, $\frac{6}{12}$ of the pies sold were pepperoni. In simplest form, what fraction is this?
- A. $\frac{1}{2}$ C. $\frac{2}{3}$
 B. $\frac{1}{3}$ D. $\frac{3}{4}$
- 6) A sports equipment bin measures 11 centimeters long, 5 centimeters wide, and 8 centimeters tall. What is its volume?
- A. 440 cubic centimeters C. 88 cubic centimeters
 B. 55 cubic centimeters D. 40 cubic centimeters



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- 1) The model shows $\frac{1}{9}$ of a whole split into 3 equal parts. What fraction of the whole is each small part?

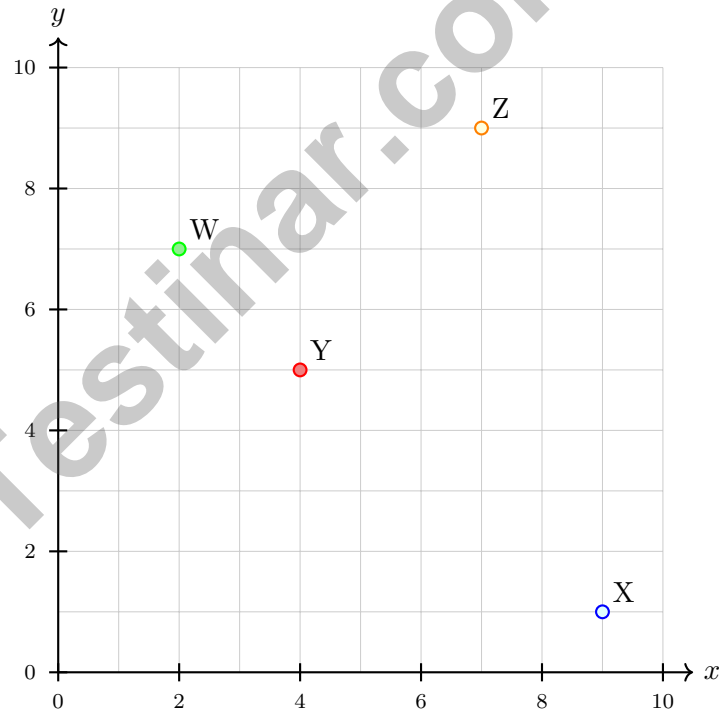
$\frac{1}{9}$ split into 3



1 whole split into 9 equal parts

- | | |
|--|--|
| <input type="checkbox"/> A. $\frac{1}{9}$ | <input type="checkbox"/> C. $\frac{1}{3}$ |
| <input type="checkbox"/> B. $\frac{1}{12}$ | <input type="checkbox"/> D. $\frac{1}{27}$ |

- 2) On this coordinate plane, which point is located at (9, 1)?



- | | |
|-------------------------------------|-------------------------------------|
| <input type="checkbox"/> A. Point W | <input type="checkbox"/> C. Point Y |
| <input type="checkbox"/> B. Point X | <input type="checkbox"/> D. Point Z |



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.

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Practice Test Answers and Explanations

Practice Test 1 Answers and Explanations

- 1) **Choice A is correct.** (5.G.A.2) The first coordinate, 10, matches the x-axis label: minutes. The second coordinate, 50, matches the y-axis label: papers checked. So the point means papers checked is 50 when minutes is 10.
- 2) **Choice A is correct.** (5.OA.A.1) To make 20, group the addition first: $(6 + 4) \times 2 = 10 \times 2 = 20$. The other choices give different values, so A is the only match.
- 3) **Choice A is correct.** (5.G.B.3) A quadrilateral with two pairs of parallel sides and four right angles is a rectangle. Since not all sides are the same length, it is not a square.
- 4) **Choice A is correct.** (5.NBT.A.2) A is correct. B equals 0.054, C is wrong, and D equals 0.054.
- 5) **Choice A is correct.** (5.OA.B.3) At each week, the number of tickets is 5 times the number of points: $20 = 5 \times 4$, $25 = 5 \times 5$, $30 = 5 \times 6$, and $35 = 5 \times 7$.
- 6) **Choice A is correct.** (5.MD.C.3) Find each part first: Prism A is $8 \times 2 \times 4 = 64$ cubic centimeters, and Prism B is $3 \times 3 \times 4 = 36$ cubic centimeters. Because the parts do not overlap, add them: $64 + 36 = 100$ cubic centimeters.
- 7) **Choice A is correct.** (5.G.B.4) All three sides have different lengths (4 cm, 7 cm, 9 cm), so this is a scalene triangle.
- 8) **Choice D is correct.** (5.G.B.4) Figure D is a rhombus with no right angles. It has two pairs of parallel sides, so it is a parallelogram, but it is not a rectangle.
- 9) **Choice B is correct.** (5.NF.A.2) Multiples of 3: 3, 6, 9, 12, ... Multiples of 4: 4, 8, 12, ... The least common multiple is 12, which is a common denominator.
- 10) **Choice C is correct.** (5.NF.A.2) The denominator 5 is multiplied by 5 to make 25. Multiply the numerator by 5 also: $\frac{4}{5} = \frac{20}{25}$.
- 11) **Choice B is correct.** (5.G.A.2) x Rule gives 0, 3, 6, ...; y Rule gives 2, 6, 10, ... First pair is (0, 2).
- 12) **Choice D is correct.** (5.MD.A.1) 1 liter = 1,000 milliliters. Divide: $5000 \div 1000 = 5$ L.
- 13) **Choice C is correct.** (5.NBT.A.3) 0.105 has 1 tenth; 0.510 has 5 tenths. So $0.105 < 0.510$, making statement C FALSE.
- 14) **Choice C is correct.** (5.NF.B.6) $\frac{3}{5} \times 25 = \frac{3 \times 25}{5} = \frac{75}{5} = 15$, so 15 students brought lunch from home.
- 15) **Choice B is correct.** (5.NF.A.1) The correct sum is $\frac{3}{4} + \frac{2}{5} = \frac{15}{20} + \frac{8}{20} = \frac{23}{20}$. Tasha incorrectly added $3 + 2 = 5$ and $4 + 5 = 9$.
- 16) **Choice D is correct.** (5.MD.A.1) Two servings is $\frac{1}{4}$ of 8 servings. The full recipe uses 20 fluid ounces, so $20 \div 4 = 5$ fluid ounces.
- 17) **The correct answer is 17 more.** (5.OA.A.2) The expression $(8 + 4) + 17$ is exactly $(8 + 4)$ with 17 added. Accept equivalent wording that says the value is 17 more, including that 17 is added after finding $8 + 4$.
- 18) **Choice C is correct.** (5.NBT.A.2) $10^2 = 100$, so $3,400 \div 100 = 34$.
- 19) **The correct answer is 72 cubic feet.** (5.MD.C.5) The garden bed is a rectangular prism, so multiply the three dimensions: $9 \times 4 \times 2 = 72$ cubic feet.
- 20) **Choices A, B are correct.** (5.NBT.A.2) $7 \times 10^2 = 700$ and $23 \times 10^3 = 23,000$. C should be 50,000, and D should be 600.
- 21) **Choice C is correct.** (5.NF.B.5) $100 \times \frac{4}{5} = 80$ points. Multiplying by $\frac{4}{5}$ (less than 1) reduces the score.
- 22) **Choice D is correct.** (5.NF.B.4) $11 \times \frac{1}{2} = \frac{11}{2} = 5\frac{1}{2}$.
- 23) **Choice D is correct.** (5.MD.C.5) Divide the volume by the base area: $450 \div 50 = 9$, so the height is 9 cm.
- 24) **Choice D is correct.** (5.NBT.A.2) Multiplying 3.2 by 100 moves the decimal two places right, giving 320.
- 25) **Choice D is correct.** (5.MD.B.2) Count X marks at 4, 5, and 6. That is $3 + 4 + 1 = 8$ students who read at least 4 books.
- 26) **Choice A is correct.** (5.NF.B.4) $\frac{1}{4} \times \frac{2}{3} = \frac{2}{12}$. In the grid, 1 of the 4 rows overlaps with 2 of the 3 columns, so $1 \times 2 = 2$ cells are shaded.
- 27) **Choice C is correct.** (5.NF.B.3) Start with one unit fraction, $\frac{1}{4}$, and share it into 5 equal parts. Each part is $\frac{1}{4} \div 5 = \frac{1}{20}$ of the whole.
- 28) **Choice C is correct.** (5.NF.A.2) $\frac{6}{6} - \frac{1}{6} = \frac{5}{6}$.



Laboratory Research Summary

Greetings, Research Scientist!

★ Exceptional research completed! You've conducted five comprehensive mathematical experiments, collecting data, analyzing results, and drawing accurate conclusions like a professional scientist! Each test represented a controlled experiment where you tested your hypotheses, recorded observations, and refined your methodologies. Your scientific approach to problem-solving has developed remarkably! ★

◇ **Here's what accomplished scientists understand:** research requires careful observation, precise measurement, and systematic analysis. They document their procedures so they can replicate successful experiments. You've developed those same scientific practices through these five tests! You've documented (mentally) which strategies work best, and now you can replicate that success on test day!
◇

Research Laboratory Findings

- **Hypothesis Testing:** You systematically evaluate which approaches work best!
- **Data Analysis:** You examine information carefully before drawing conclusions!
- **Experimental Control:** You maintain focus and accuracy throughout testing!
- **Research Complete:** Your findings confirm readiness for test day experimentation!

Remember this scientific principle: careful scientists verify their results before publishing findings. On test day, apply that same careful verification to your work. Double-check your calculations, confirm your answers make sense, and submit your best work. You've practiced the scientific method five times trust your research skills!

Want to publish your mathematical research findings or discuss an interesting problem-solving hypothesis? Submit your papers to reza@testinar.com. The journal awaits your contributions!

Reza Nazari & Jay Daie

Your Math Teacher (Proud of You!)

5 FULL-LENGTH TESTS. STRONG SKILLS. BRIGHTER RESULTS.



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Build Confidence
with consistent
practice



Improve Accuracy
and problem-
solving skills



Time Management
strategies for
test success



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