

8

Iowa ISASP

GRADE 7

MATH

PRACTICE TESTS

✓ Standards Aligned
Problem Solving

For Comprehensive
Assessment Programs



8 PRINTED
TESTS



2 ONLINE
TESTS



Use these two additional online practice tests
for **extra review** after the printed tests in this book.



BUILD CONFIDENCE



STRENGTHEN SKILLS



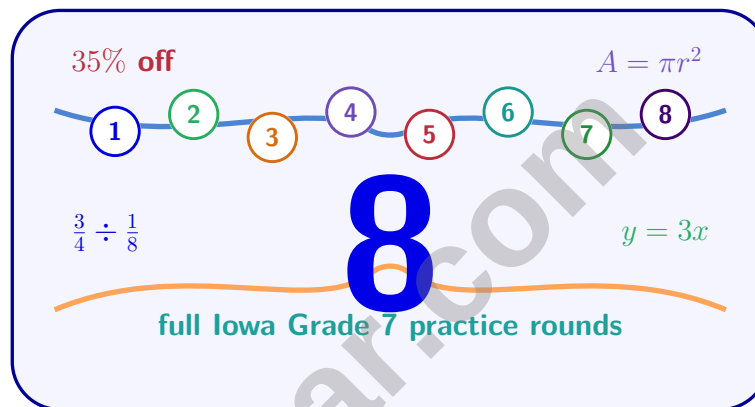
THINK SMARTER



BE TEST-READY

8 Iowa ISASP Grade 7 Math Practice Tests

Focused growth in Iowa Grade 7 proportional thinking, rational numbers, algebra, geometry, and data reasoning



Eight complete 40-question Grade 7 ISASP practice rounds with proportional relationships, percents, rational numbers, expressions, equations, geometry, statistics, probability, answer keys, and clear explanations for every item.

Jay Daie and Reza Nazari



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Welcome, Iowa Grade 7 Problem Solver!

Eight focused rounds for sharper ISASP math thinking

This book gives you eight full Grade 7 ISASP math practice tests. Each round is built to help you notice structure, compare quantities, use proportional reasoning, handle rational numbers, and explain your thinking with care.

Your Iowa Practice Promise

I will read every question carefully, choose a strategy that fits, write enough work to prove my answer, and use corrections as training for the next test.

Read

Model

Verify

How to Use This Book

An eight-session plan for confident Grade 7 review

1. **Warm up with the review pages.** Notice the big ideas before starting the tests.
2. **Complete one test at a time.** Treat each 40-question round like a real practice session.
3. **Show your reasoning.** Jot a proportion, equation, diagram, number line, or quick estimate when it helps.
4. **Correct actively.** Rework missed items before reading the explanation.
5. **Choose the next target.** After each test, name one skill and one habit to improve.

Iowa review rhythm: Work a test, score it, study your misses, then come back ready for the next round with one clear goal.



What Is Inside?

Eight ISASP tests, 320 questions, and a complete review path

Part	What You Will Practice
Tests 1–3	Proportional relationships, unit rates, percents, rational-number operations, and careful reading.
Tests 4–6	Expressions, equations, inequalities, scale drawings, geometry, and multi-step problem solving.
Tests 7–8	Statistics, probability, mixed review, stamina, and choosing efficient strategies.
Answer Pages	Compact keys and explanations that show why each answer works.

The tests are mixed on purpose. Grade 7 success means recognizing which idea is being tested even when the next question changes format.



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& answers

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1) Add: $\frac{1}{2} + \frac{1}{3}$

- ☐ A. $\frac{2}{5}$
☐ B. $\frac{5}{6}$

- ☐ C. $\frac{1}{6}$
☐ D. $\frac{2}{6}$

2) Express 0.0056 in scientific notation and identify which form is NOT equivalent.

- ☐ A. 5.6×10^{-3}
☐ B. 56×10^{-4}

- ☐ C. 0.56×10^{-2}
☐ D. 5.6×10^{-2}

3) A student invests \$1,000 at 5% annual compound interest. Calculate the balance after 2 years.

4) Simplify: $(7h - 3) + (2h - 5) - (h + 1)$

- ☐ A. $8h - 9$
☐ B. $8h - 1$

- ☐ C. $10h - 9$
☐ D. $8h - 4$

5) Simplify: $(b^3)^4$

- ☐ A. b^7
☐ B. b^{12}

- ☐ C. b^{81}
☐ D. b^{64}

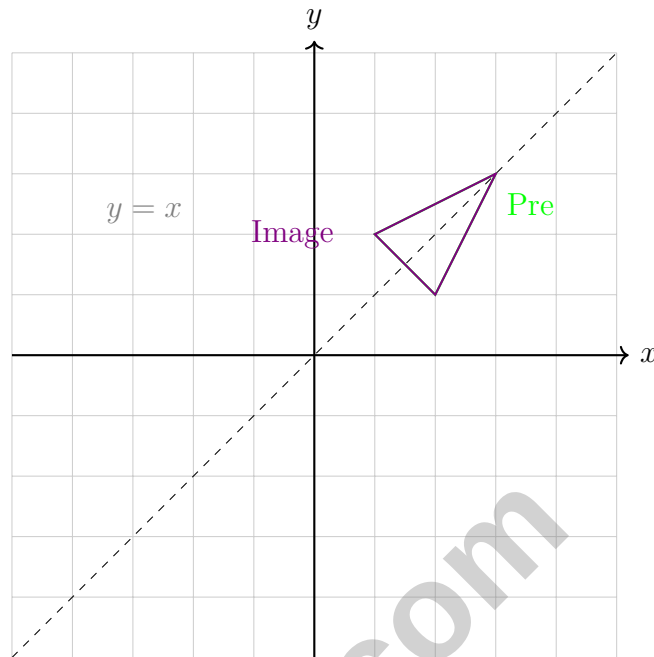
6) A baker buys flour in 5-pound bags at \$3 per bag. She also buys yeast for \$2. If she spends \$17 total, which equation represents the number of bags b she bought?

- ☐ A. $5b + 3 = 17$
☐ B. $3 + 2b = 17$

- ☐ C. $3b + 2 = 17$
☐ D. $5(b + 2) = 17$



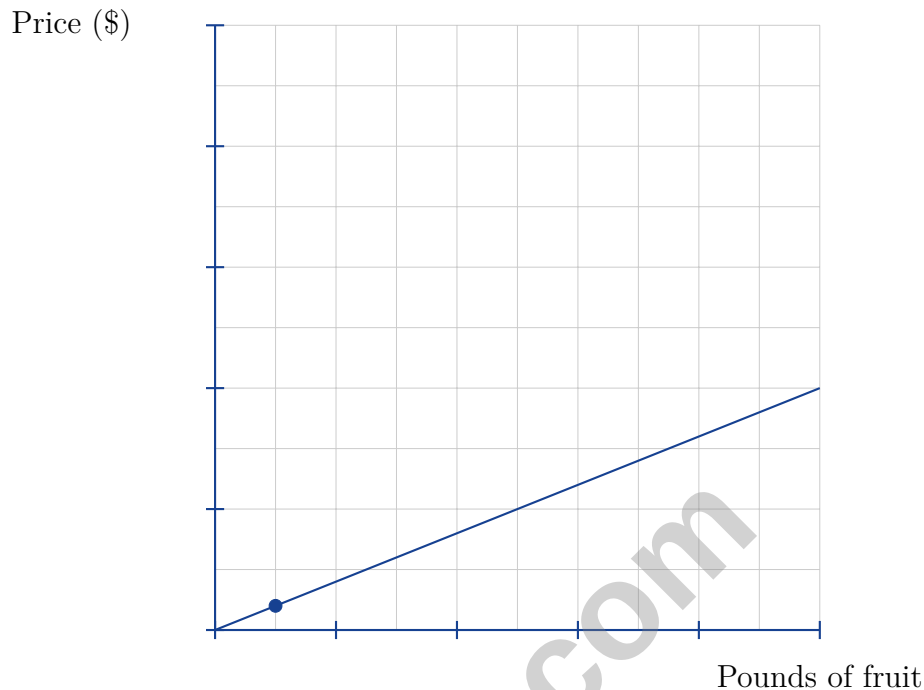
7)



The green triangle is reflected over the line $y = x$ to form the purple triangle. Which vertex of the pre-image corresponds to the vertex at $(3, 3)$ in the image?

☐ A. $(1, 2)$ ☐ C. $(2, 1)$ ☐ B. $(3, 3)$ ☐ D. $(3, 1)$ 

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8)

A farmer sells fruit at the price shown on the graph. How much does 1 pound of fruit cost?

☐ A. \$10.00☐ C. \$4.00☐ B. \$1.00☐ D. \$0.40

9) At a bakery, 8 cups of flour are divided equally into $\frac{1}{4}$ -cup portions. How many portions are there?

☐ A. 2 portions☐ C. 16 portions☐ B. 8 portions☐ D. 32 portions

- 1) A bag contains only red and blue marbles. A marble is drawn 150 times with replacement. Red appears 84 times. Based on this experiment, which is the best estimate of the probability of drawing a red marble on the next draw?

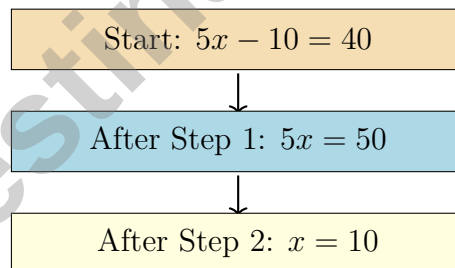
- ☐ A. 0.44 ☐ C. 0.56
☐ B. 0.50 ☐ D. 0.84

- 2) What is the solution to $7x + 4 = 32$? (Check by substitution.)

$$\begin{array}{rcl} 7x + 4 = 32 & & \\ \downarrow & \text{Subtract 4} & \\ 7x = 28 & & \\ \downarrow & \text{Divide by 7} & \\ x = 4 \checkmark & & \end{array}$$

- ☐ A. $x = 3$ ☐ C. $x = 5$
☐ B. $x = 4$ ☐ D. $x = 6$

3)



What operation was used in Step 1?

- ☐ A. Add 10 ☐ C. Multiply by 10
☐ B. Subtract 10 ☐ D. Divide by 10



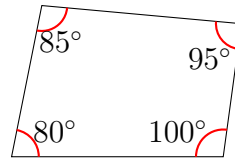
4) Which expression has the largest product?

☐ A. 0.5×10

☐ C. $(-2) \times (-3.5)$

☐ B. 0.25×16

☐ D. $(-1) \times 5$



5)

Which statement is true about the angle measures shown?

☐ A. Their sum is 180° .

☐ C. They are all equal.

☐ B. Their sum is 360° .

☐ D. They cannot make a quadrilateral.

6) A circle graph shows the breakdown of how students spend their day: Sleep 33%, School 25%, Homework 17%, Recreation 15%, Other 10%. If a student sleeps 8 hours, how many hours does the student spend in school (assuming the percentages hold)?

☐ A. 4 hours

☐ C. 8 hours

☐ B. 6 hours

☐ D. 10 hours

7) A bag contains 4 red, 5 blue, and 6 green marbles. What is the theoretical probability of drawing a blue marble at random?

☐ A. $\frac{1}{5}$

☐ C. $\frac{4}{15}$

☐ B. $\frac{1}{3}$

☐ D. $\frac{2}{5}$

8) Two spinners are spun. The first spinner has sections labeled 1, 2, and 3. The second spinner has sections labeled A and B. How many outcomes are in the sample space?

☐ A. 5

☐ C. 8

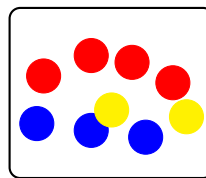
☐ B. 6

☐ D. 9


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- 1) A stem-and-leaf plot shows the ages of workers at two companies. Company X has data: 22, 24, 25, 26, 29; Company Y has data: 18, 19, 22, 45, 48. Which statement is best supported?
- ☐ A. Company X has a higher median and less spread
- ☐ B. Company Y has younger workers overall
- ☐ C. Both companies have the same age distribution
- ☐ D. Company X workers are older than Company Y workers
- 2) If a circle has radius r , which expression represents its area?
- ☐ A. $2\pi r$
- ☐ B. πd^2
- ☐ C. $4\pi r$
- ☐ D. πr^2
- 3) A jar holds 20 identical slips of paper. How many slips must be labeled “YES” if the probability of drawing “YES” is 0.4?
- ☐ A. 4
- ☐ B. 8
- ☐ C. 6
- ☐ D. 10
- 4) A bag contains 4 red marbles, 3 blue marbles, and 2 yellow marbles. What is the probability of drawing a blue marble?

Bag of marbles



- ☐ A. $\frac{3}{9}$
- ☐ B. $\frac{4}{9}$
- ☐ C. $\frac{2}{9}$
- ☐ D. $\frac{3}{4}$



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5) Expand and simplify: $2(3 + 4y) - 5$

☐ A. $8y + 1$

☐ B. $8y - 5$

☐ C. $6 + 8y - 5$

☐ D. $12y + 1$

6) What is $-11 - (-5)$?

☐ A. -16

☐ B. 16

☐ C. 6

☐ D. -6

7) A diver is 15 feet below sea level. She swims up 8 feet. How many feet below sea level is she now? (Represent below sea level as negative.)

☐ A. -23 feet

☐ B. 23 feet

☐ C. 7 feet

☐ D. -7 feet

8) A rectangular prism has length 12 in, width 6 in, and height 5 in. Find the surface area.

☐ A. 360 in^2

☐ B. 324 in^2

☐ C. 258 in^2

☐ D. 180 in^2



Iowa ISASP Grade 7 Practice Test Answer Keys**How to use this section with a Grade 7 student:**

1. check the answer first and circle any item that needs another look
2. retry the problem with fresh work before reading the explanation
3. write one short lesson learned from each missed or guessed item

A strong review routine turns every correction into a sharper plan for the next Iowa ISASP practice test.

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Practice Test Answers and Explanations

Practice Test 1 Answers and Explanations

- 1) **Choice B is correct.** **(7.NS.1-7.NS.3)** Common denominator is 6: $\frac{3}{6} + \frac{2}{6} = \frac{5}{6}$.
- 2) **Choice D is correct.** **(7.NS.1-7.NS.3)** $0.0056 = 5.6 \times 10^{-3}$ (proper form). Check: $56 \times 10^{-4} = 5.6 \times 10^{-3}$ (equiv.), $0.56 \times 10^{-2} = 5.6 \times 10^{-3}$ (equiv.), but $5.6 \times 10^{-2} = 0.056 \neq 0.0056$.
- 3) **The correct answer is \$1102.50.** **(7.RP.3)** Year 1: $1000 \times 1.05 = 1050$. Year 2: $1050 \times 1.05 = 1102.50$.
- 4) **Choice A is correct.** **(7.EE.1-7.EE.2)** Combine: $(7h + 2h - h) + (-3 - 5 - 1) = 8h - 9$.
- 5) **Choice B is correct.** **(7.EE.1-7.EE.2)** Multiply exponents when raising a power to a power: $(b^3)^4 = b^{3 \times 4} = b^{12}$.
- 6) **Choice C is correct.** **(7.EE.4a)** Each bag costs \$3 and yeast is \$2. Equation: $3b + 2 = 17$.
- 7) **Choice B is correct.** **(7.G.1-7.G.5)** Points on the line $y = x$ map to themselves under reflection over $y = x$. Since $(3, 3)$ lies on this line, it is its own image.
- 8) **Choice D is correct.** **(7.RP.1-7.RP.3)** The unit-rate point $(1, 0.4)$ indicates \$0.40 per pound.
- 9) **Choice D is correct.** **(7.NS.1-7.NS.3)** $8 \div \frac{1}{4} = 8 \times \frac{4}{1} = 32$.
- 10) **Choice C is correct.** **(7.NS.1-7.NS.3)** Discount: $\frac{1}{5} \times 60 = 12$. Price: $60 - 12 = 48$ dollars.
- 11) **Choice A is correct.** **(7.EE.1-7.EE.2)** A 25% discount removes 25%, so we keep $1 - 0.25 = 0.75$ of the original price.
- 12) **Choice C is correct.** **(7.EE.3-7.EE.4)** Subtract 5: $\frac{x}{4} = 4$. Multiply by 4: $x = 16$.
- 13) **Choice B is correct.** **(7.EE.4a)** Distribute: $9x + 18 = 63$. Subtract 18: $9x = 45$. Divide by 9: $x = 5$.
- 14) **Choice A is correct.** **(7.SP.5-7.SP.8)** $P(A) = \frac{1}{2} = 0.5$ is the largest probability. $B = 0.25$, $C = D = 0.125$.
- 15) **Choice D is correct.** **(7.RP.3)** Total fees = $0.25 + 15.00 + 2.50 + 8.00 = \25.75 .
- 16) **Choice A is correct.** **(7.NS.2)** $0.4 \times 0.5 = 0.2$. Count total decimal places: $4 \times 5 = 20$, then place decimal to get $0.20 = 0.2$.
- 17) **Choice C is correct.** **(7.SP.3)** City A clusters at 70–75 (range 5), indicating consistency. City B spans 50–90 (range 40), showing high variability. Both distributions include temperatures 70–75 degrees, so they overlap there.
- 18) **The correct answer is (6, 7).** **(7.NS.1-7.NS.3)** $6^2 = 36$ and $7^2 = 49$. Since $36 < 40 < 49$, the answer is between 6 and 7.
- 19) **Choice B is correct.** **(7.G.4-7.G.6)** Rectangle: $6 \times 4 = 24 \text{ m}^2$. Triangle: $\frac{1}{2} \times 6 \times 3 = 9 \text{ m}^2$. Total: $24 + 9 = 33 \text{ m}^2$. The student forgot to use the triangle area formula $\frac{1}{2} \times b \times h$.
- 20) **Choice B is correct.** **(7.SP.1-7.SP.4)** Class A: 71, 75, 79, 86, 88 (median 79). Class B: 72, 74, 78, 81, 83, 85, 87, 90, 92, 96 (median between 83 and 85 = 84).
- 21) **Choice D is correct.** **(7.RP.1-7.RP.3)** Scale 1 in. = 4 ft. means $\frac{1}{4} = \frac{x}{16}$, so $x = 4$ inches. The student incorrectly multiplied instead of dividing.
- 22) **The correct answer is B,D.** **(7.NS.1-7.NS.3)** B: $-33 + 33 = 0$ (opposites sum to zero). D: $-100 + 100 = 0$ (opposites sum to zero). A: $20 + (-10) = 10$ (not zero). C: $14 + (-7) = 7$ (not zero).
- 23) **Choice A is correct.** **(7.G.4-7.G.6)** $\frac{5,000 \text{ in}^3}{1,728 \text{ in}^3/\text{ft}^3} \approx 2.89 \text{ ft}^3$.
- 24) **Choice A is correct.** **(7.G.1-7.G.5)** Triangle Inequality requires strict inequalities: $|5.1 - 3.2| < c < 5.1 + 3.2$, so $1.9 < c < 8.3$.
- 25) **Choice C is correct.** **(7.G.1-7.G.5)** The vertex L may lie anywhere on a line parallel to JK at distance 3 cm above it. Each position yields a different triangle with the same base and height but different side lengths and angles.
- 26) **Choice B is correct.** **(7.G.4-7.G.6)** A sector is a pie-shaped region formed by two radii and the arc between them.
- 27) **Choice C is correct.** **(7.SP.1-7.SP.4)** Proportion from sample: $\frac{40}{60} = \frac{2}{3}$. Apply to population: $\frac{2}{3} \times 3000 = 2000$ expected successes.
- 28) **Choice D is correct.** **(7.RP.1-7.RP.3)** From the double number line, $\frac{1}{2}$ mile in $\frac{1}{6}$ hour gives unit rate $\frac{1/2}{1/6} = \frac{1}{2} \times 6 = 3$ mph.
- 29) **Choice D is correct.** **(7.RP.1-7.RP.3)** Divide: $\frac{1/2}{1/4} = \frac{1}{2} \times \frac{4}{1} = 2$. For every 1 cup sugar, you need 2 cups flour.



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Hi, Number Sense Builder!

◇ Grade 7 numbers do more than sit on a page. They describe rates, changes, comparisons, distances, chances, and patterns. ◇

★ **Remember this:** You practiced listening to that story. When the answer makes sense in the situation, your math becomes much stronger. This version gave you 8 opportunities to rehearse test-day habits. ★

Number Sense Checks

- **Too Big?:** Compare with an estimate.
- **Too Small?:** Use the context to judge.
- **Right Sign?:** Positive and negative values matter.
- **Right Unit?:** A number needs meaning.

Grade 7 test-day tip: Before choosing an answer, ask whether it fits the story of the problem.

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

Jay Daie

Your Number-Sense Friend

PRACTICE TODAY. SUCCEED TOMORROW!

This book includes **8** full-length Math practice tests and **2** online tests to help Grade 7 students build confidence, strengthen skills, and excel on standardized assessments.

Each practice test is carefully crafted to reflect the latest standards and includes a variety of question types, realistic test conditions, and detailed answer explanations.

Perfect for classroom use, homework, test preparation, and extra practice at home.



THIS BOOK INCLUDES:

8 Full-Length Printed Tests

2 Online Practice Tests

 Detailed Answer Explanations



MORE PRACTICE. GREATER RESULTS.

Give your child the tools to build strong math skills, confidence, and a positive attitude toward learning.

WHAT YOU'LL GAIN



Stronger Math Skills

Build a solid foundation through targeted practice and review.



Better Problem Solving

Develop logical thinking and effective solution strategies.



Deeper Understanding

Reinforce key concepts with clear explanations and meaningful practice.



Test Confidence

Familiarize with test formats and improve accuracy and speed.



Achieve Success

Build confidence and perform your best on test day.

TOPICS COVERED

- ✓ Ratios & Proportions
- ✓ The Number System
- ✓ Expressions & Equations
- ✓ Geometry
- ✓ Percents & Decimals
- ✓ Statistics & Probability
- ✓ Data Analysis
- ✓ Measurement & Conversions
- ✓ Algebraic Thinking
- ✓ And More!



2 ONLINE TESTS

Use these two additional online practice tests for extra review after the printed tests in this book.



2 EXTRA ONLINE TEST ACCESS CODE IS INSIDE THE BOOK!

Don't lose it—your extra practice and success start here!



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