

9 Iowa ISASP

GRADE 7

MATH

PRACTICE TESTS

Standards Aligned Problem Solving
For Comprehensive Assessment Programs

Program



**9 PRINTED
TESTS**



**2 ONLINE
TESTS**



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



BUILT FOR ACAP
Standards-Aligned



**STRENGTHEN
SKILLS**



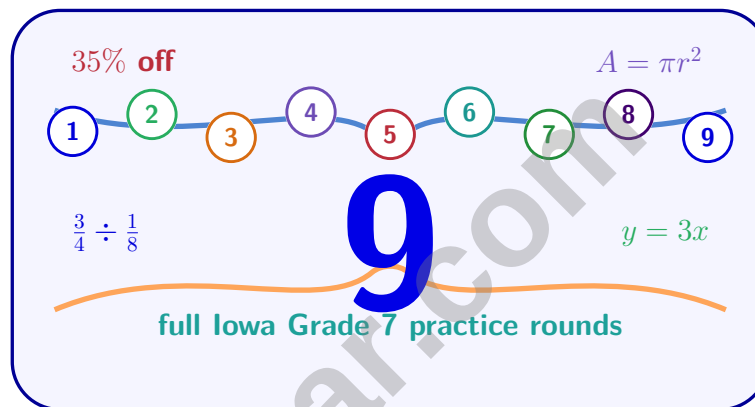
**SHARPEN
THINKING**



BE TEST-READY
Improve Performance

9 Iowa ISASP Grade 7 Math Practice Tests

Standards-Aligned Iowa Practice for Proportional Reasoning, Expressions, Geometry, Statistics, and Probability



Nine 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!

Nine focused rounds for sharper ISASP math thinking

This book gives you nine 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

A nine-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?

Nine ISASP tests, 360 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 7–9	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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1) Find x : $-2x + 5 = 1$

☐ A. $x = -2$

☐ C. $x = 2$

☐ B. $x = 1$

☐ D. $x = 3$

2) A bag contains 3 red marbles and 5 blue marbles. What is the probability of drawing a red marble first, WITHOUT replacing it, then drawing a blue marble?

☐ A. $\frac{3}{8} \cdot \frac{5}{8}$

☐ C. $\frac{15}{56}$

☐ B. $\frac{3}{8} \cdot \frac{4}{7}$

☐ D. $\frac{15}{64}$

3) A car salesman earns \$1,000 commission on a \$25,000 vehicle sale. What is his commission rate?

☐ A. 2%

☐ C. 4%

☐ B. 3%

☐ D. 5%

4) A quality control test found that out of 750 items produced, 12 were defective. What is the experimental probability that an item is defective?

☐ A. $\frac{12}{750}$

☐ C. 0.12

☐ B. $\frac{3}{125}$

☐ D. $\frac{1}{12}$

5) A rectangular prism with a volume of 360 m^3 has a base area of 40 m^2 . Find the height.

☐ A. 4 m

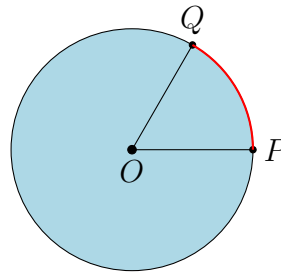
☐ C. 9 m

☐ B. 7 m

☐ D. 14400 m



- 6) In the circle below, which shaded region represents a sector?



The red shaded region is:

- | | |
|--------------------------------------|--------------------------------------|
| ☐ A. A chord | ☐ C. An arc |
| ☐ B. A sector | ☐ D. A radius |
- 7) A teacher invests \$5000 in a savings bond at 2.5% simple interest per year. What is the total amount (principal plus interest) after 8 years?
- | | |
|------------------------------------|------------------------------------|
| ☐ A. \$5625 | ☐ C. \$6000 |
| ☐ B. \$5750 | ☐ D. \$6250 |
- 8) A geometric figure has an area of 48 square inches. If the figure is enlarged by a scale factor of 3, what is the new area?
- | | |
|---|---|
| ☐ A. 144 square inches | ☐ C. 51 square inches |
| ☐ B. 16 square inches | ☐ D. 432 square inches |



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Markup Table	
Cost	Selling Price
\$40	\$56
\$50	?
\$100	\$140

9)

A store uses a consistent markup strategy. Based on the table, what should be the selling price for an item that costs \$50?

☐ A. \$65☐ C. \$60☐ B. \$75☐ D. \$7010) Evaluate $-3(x - 2)$ when $x = 5$.☐ A. 9☐ C. 21☐ B. -9☐ D. -2111) A student reads $\frac{3}{5}$ page per minute. How many pages can they read in 15 minutes?☐ A. $\frac{1}{5}$ pages☐ C. 18 pages☐ B. $\frac{3}{5}$ pages☐ D. 9 pages

12) A phone plan costs \$15 per month plus \$0.10 per text message. Is the total cost proportional to the number of text messages?

☐ A. Yes☐ C. Only if you send fewer than 50 texts☐ B. Only if you pay more than \$20☐ D. No

1) A store marks up a product by \$5 on a cost of \$25. What is the selling price?

☐ A. \$35

☐ C. \$20

☐ B. \$45

☐ D. \$30

2) A recipe uses $\frac{3}{4}$ cup of milk for $\frac{1}{3}$ batch. How much milk is needed for a full batch?

☐ A. $\frac{1}{9}$ cup

☐ C. $\frac{1}{4}$ cup

☐ B. 1 cup

☐ D. $2\frac{1}{4}$ cups

3) A student incorrectly says a graph shows a proportional relationship. The student made an error. What was it?

The graph shows a line from (0, 2) to (4, 10).

☐ A. The line is too steep

☐ D. The line does not pass through the

☐ B. The points are not whole numbers origin

☐ C. The line has negative slope

4) A factory produces widgets at a constant rate. In 6 hours, 180 widgets are produced. What is the constant of proportionality (widgets per hour)?

☐ A. 20 widgets/hr

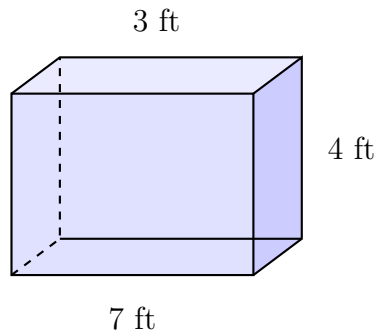
☐ C. 25 widgets/hr

☐ B. 36 widgets/hr

☐ D. 30 widgets/hr



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5)

This isometric view shows a rectangular prism with dimensions $7\text{ ft} \times 4\text{ ft} \times 3\text{ ft}$. Calculate the surface area.

☐ A. 98 ft^2

☐ B. 122 ft^2

☐ C. 166 ft^2

☐ D. 336 ft^2

6) Simplify: $-2m - 5m + 3n + n$

☐ A. $-7m + 4n$

☐ B. $-3m + 4n$

☐ C. $-7m + 3n$

☐ D. $7m + 4n$

7) Which expression shows $4x + 8y$ factored completely?

☐ A. $4(x + 2y)$

☐ B. $4x(1 + 2y)$

☐ C. $2(2x + 4y)$

☐ D. $x(4 + 8y)$

8) A rental company charges \$25 per day. If a customer has a budget of at most \$200, what is the maximum number of days they can rent?

☐ A. $25d \geq 200$

☐ B. $d \geq 8$

☐ C. $d > 8$

☐ D. $d \leq 8$



- 1) A triangular prism has a right-triangular base with legs 8 m and 9 m, and the prism has a depth of 5 m. What is the volume?

☐ A. 90 m^3 ☐ C. 180 m^3
☐ B. 108 m^3 ☐ D. 360 m^3

- 2) Which of the following is the correct first step to solve $4x - 3 = 13$?

☐ A. Subtract 4 from both sides ☐ C. Divide both sides by 4
☐ B. Add 3 to both sides ☐ D. Multiply both sides by 4

- 3) Compare simple vs. compound: \$1,500 at 7% for 2 years. By how much does compound earn more?

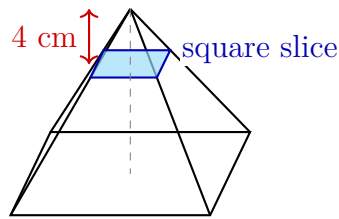
- 4) A student incorrectly found the scale factor as the reciprocal of the intended scale. If the correct scale is 3 : 1, what scale did the student use?

☐ A. 1 : 3 ☐ C. 6 : 1
☐ B. 3 : 3 ☐ D. 1 : 6

- 5) A blueprint shows a rectangular kitchen 6 cm by 8 cm at scale 1 cm : 2 m. When redrawn at scale 1 cm : 4 m, what is the length of the kitchen on the new blueprint?

☐ A. 3 cm ☐ C. 8 cm
☐ B. 4 cm ☐ D. 16 cm





6)

A square pyramid is cut by a plane parallel to its base. The cross-section is a square. If the pyramid has a height of 12 cm and the cut is made 4 cm from the apex, how does the area of the cross-section compare to the base?

☐ A. It is $\frac{1}{3}$ of the base area☐ C. It is $\frac{4}{9}$ of the base area☐ B. It is $\frac{1}{9}$ of the base area☐ D. It is $\frac{4}{12}$ of the base area

7) An angle and its supplement are in the ratio 2 : 7. What is the measure of the supplement?

☐ A. 140° ☐ C. 40° ☐ B. 80° ☐ D. 160° 

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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 C is correct.** (7.EE.3-7.EE.4) Subtract 5: $-2x = -4$. Divide by -2 : $x = 2$.
- 2) **Choice C is correct.** (7.SP.5-7.SP.8) Without replacement: $P(\text{red first}) = \frac{3}{8}$, then $P(\text{blue second}) = \frac{5}{7}$ (only 7 left). Product: $\frac{3}{8} \cdot \frac{5}{7} = \frac{15}{56}$.
- 3) **Choice C is correct.** (7.RP.3) Commission rate = $\frac{1000}{25000} = 0.04 = 4\%$.
- 4) **Choice A is correct.** (7.SP.6) Experimental probability of defect = $\frac{12}{750}$. This simplifies to $\frac{2}{125} = 0.016$. Option A is the most direct answer from the data.
- 5) **Choice C is correct.** (7.G.4-7.G.6) $h = \frac{V}{B} = \frac{360}{40} = 9$ m.
- 6) **Choice B is correct.** (7.G.4-7.G.6) The shaded region bounded by two radii (OP and OQ) and the arc PQ is a sector.
- 7) **Choice C is correct.** (7.RP.3) $I = 5000 \times 0.025 \times 8 = \1000 . $A = 5000 + 1000 = \$6000$.
- 8) **Choice D is correct.** (7.RP.1-7.RP.3) Area scales by the square of the linear scale factor: $(3)^2 = 9$. New area = $48 \times 9 = 432$ sq in.
- 9) **Choice D is correct.** (7.RP.3) From row 1: markup is $56 - 40 = \$16$ on cost of $\$40$, a 40% markup. For cost $\$50$: markup = $0.40 \times 50 = \$20$, so selling price = $50 + 20 = \$70$.
- 10) **Choice B is correct.** (7.EE.1-7.EE.2) Substitute: $-3(5 - 2) = -3(3) = -9$.
- 11) **Choice D is correct.** (7.RP.1-7.RP.3) $\frac{3}{5}$ pages/min $\times 15$ min = $\frac{3}{5} \times 15 = \frac{45}{5} = 9$ pages.
- 12) **Choice D is correct.** (7.RP.1-7.RP.3) The equation is $\text{Cost} = 15 + 0.10t$. The constant $\$15$ (fixed fee) means not proportional.
- 13) **Choice D is correct.** (7.RP.1-7.RP.3) The variables were reversed. Since a represents apples and p represents price, price should depend on apples: $p = \frac{10}{4}a = 2.5a$, not $a = \frac{10}{4}p$.
- 14) **Choice C is correct.** (7.RP.3) Using the proportion $\frac{120}{100} = \frac{d}{1}$ where d is the decimal, divide: $\frac{120}{100} = 1.2$.
- 15) **The correct answer is 20.** (7.RP.1-7.RP.3) Cross multiply: $7 \times 100 = 35 \times x$. So $700 = 35x$, giving $x = 20$.
- 16) **Choice C is correct.** (7.RP.3) Emergency savings = $8\% \times \$48,000 = 0.08 \times 48000 = \$3,840$.
- 17) **Choice B is correct.** (7.NS.1-7.NS.3) $5^2 = 25$ and $6^2 = 36$. Since 32 is much closer to 36 than to 25, $\sqrt{32}$ is closer to 6 (approximately 5.66).
- 18) **Choice B is correct.** (7.NS.1-7.NS.3) Reading from graph: hour 1 is 16°C , hour 3 is 12°C . Change = $12 - 16 = -4^\circ\text{C}$.
- 19) **The correct answer is A,C.** (7.G.4-7.G.6) Large square: $20 \times 20 = 400$ m² (A). Small square: $5 \times 5 = 25$ m². Remaining: $400 - 25 = 375$ m² (C). The cutout is $\frac{25}{400} = \frac{1}{16}$ of the original area, not $\frac{1}{20}$.
- 20) **Choice B is correct.** (7.EE.1-7.EE.2) The first: $x + x + x + 5 = 3x + 5$ is correct. The second is wrong: $x(3 + 5) = 8x \neq 3x + 5$. The 5 must be distributed separately: $x(3) + 5 \neq x(3 + 5)$.
- 21) **Choice B is correct.** (7.EE.3-7.EE.4) Discount % = $\frac{\text{savings}}{\text{original}} \times 100 = \frac{12}{60} \times 100 = 20\%$.
- 22) **Choice B is correct.** (7.G.1-7.G.5) The width scale factor is $\frac{12 \text{ feet}}{3 \text{ inches}} = 4$ feet/inch. The height of the actual sign is $2 \text{ inches} \times 4 \text{ feet/inch} = 8$ feet.
- 23) **Choice B is correct.** (7.G.4-7.G.6) Correct: $3.14 \times 25 = 78.5$ cm². Student: $3 \times 25 = 75$ cm². Difference: $78.5 - 75 = 3.5$ cm².
- 24) **Choice B is correct.** (7.NS.2) Three groups of -2 : $3 \times (-2) = -6$. The arrows move left 2 units, 3 times, landing on -6 .
- 25) **The correct answer is 1600.** (7.SP.1-7.SP.4) Set up the proportion: $\frac{80}{250} = \frac{x}{5000}$. Solve: $x = \frac{80 \times 5000}{250} = 1600$.
- 26) **Choice A is correct.** (7.SP.5-7.SP.8) Probabilities must sum to 1: $0.1 + 0.2 + 0.3 + 0.25 + P(5) = 1 \Rightarrow P(5) = 0.15$.
- 27) **Choice C is correct.** (7.SP.1-7.SP.4) Values in range: 305, 308, 311 (from stems 30 and 31, leaves 5, 8, 1). That's 3 values.
- 28) **Choice C is correct.** (7.RP.3) Savings percent: $\frac{400}{2000} = 0.20 = 20\%$.
- 29) **Choice D is correct.** (7.RP.3) Friend A: $400(1.10)^2 = 484$; interest = 84. Friend B: $400 + 400(0.10)(2) = 480$; interest = 80. Difference: $84 - 80 = 4$.



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Hi, Confident Learner!

◇ This high-stamina book gave you nine substantial Grade 7 practice tests, so you had repeated chances to build accuracy, pacing, and confidence. Grade 7 math can feel big because it brings together rational numbers, expressions, equations, geometry, probability, and data. ◇

★ **Remember this:** But big topics become manageable when you practice one skill at a time. That is what you have been doing with every test in this book. ★

Confidence Builders

- **Know the Goal:** Identify what the question asks.
- **Use Vocabulary:** Math words point to math actions.
- **Show Work:** Give yourself something to check.
- **Celebrate Effort:** Practice is proof that you are moving.

Grade 7 test-day tip: When reviewing, do not only mark wrong answers. Write one sentence about what you learned from each one.

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

Jay Daie

Your Confidence Coach

PRACTICE TODAY. SUCCEED TOMORROW!

This book includes **9** 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:

9 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!

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