7 Iowa ISASP Grade 7 Math Practice Tests

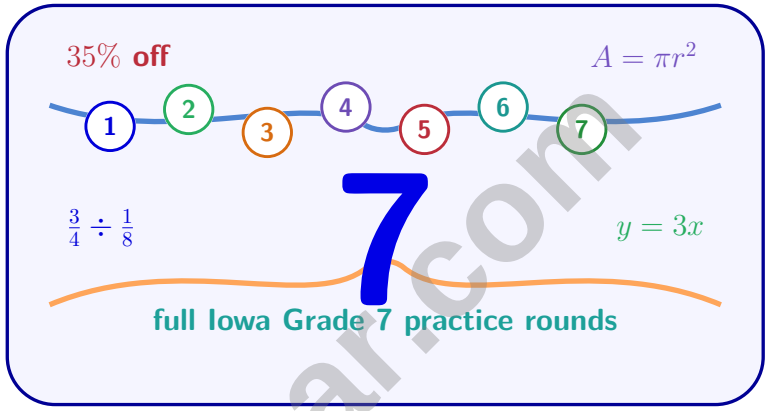
ONLINE

7 PRINTED TESTS + 2 ONLINE TESTS

Standards Aligned Problem Solving For Comprehensive Assessment Programs

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 seven 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.

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, 280 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.

Table of Contents

1) A cone is cut by a vertical plane passing through its apex and intersecting the base circle. Which shape is formed?

☐ A. Right triangle
☐ B. Isosceles triangle
☐ C. Equilateral triangle
☐ D. Scalene triangle

2) A vendor receives $\$2,400$ after paying a 20% commission to a platform. What was the original sale amount before the commission was deducted?

☐ A. $\$2,880$
☐ B. $\$4,200$
☐ C. $\$3,200$
☐ D. $\$3,000$

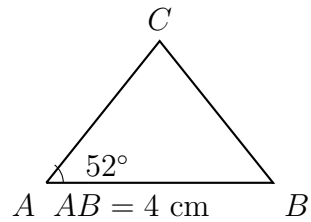
3) What is $-\frac{1}{4} \times 8$?

☐ A. -8
☐ B. -4
☐ C. -2
☐ D. 2

4) Two savings plans are compared over 2 years. Plan X deposits \$1,100 at 4% compound; Plan Y deposits \$1,000 at 6% compound. Which plan has a greater final balance, and by approximately how much?

☐ A. Plan X by \$66
☐ B. Plan Y by \$66
☐ C. Plan X by \$10
☐ D. Plan Y by \$10

5)



To construct triangle ABC with side $AB = 4$ cm and angle at $A = 52°$ uniquely, the minimum additional information needed is:

- ☐ A. One more side length
- ☐ B. One more angle measure
- ☐ C. Either another side or another angle
- ☐ D. Nothing; the triangle is already unique

6) An error analysis: A student wrote $|-9| = -9$. What is the correct value, and why is the student wrong?

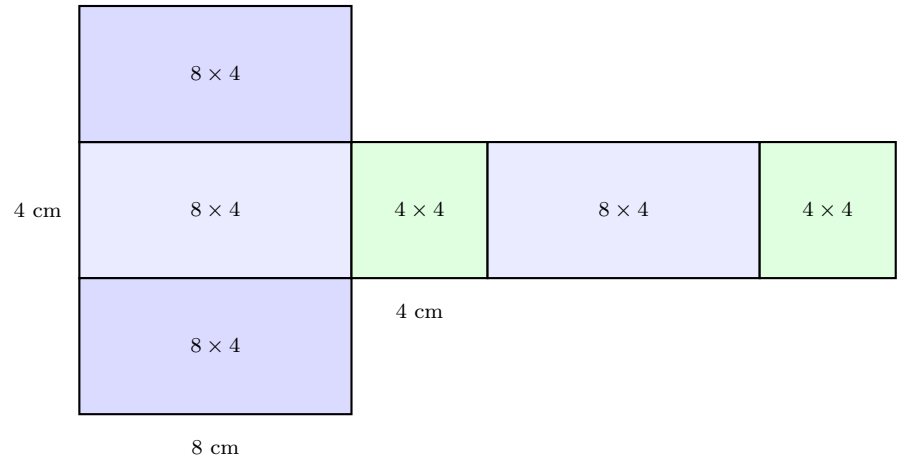
- ☐ A. Correct: $|-9| = -9$; student is right
- ☐ B. Correct: $|-9| = 18$; doubling the number
- ☐ C. Correct: $|-9| = 0$; distance from zero is zero
- ☐ D. Correct: $|-9| = 9$; absolute value is always non-negative

7) Evaluate $-13 + (-7)$.

- ☐ A. -20
- ☐ B. -6
- ☐ C. 6
- ☐ D. 20

8) If you have -5 dollars (meaning you owe 5 dollars) and you lose an additional 12 dollars, what is your new balance? Express your answer as an integer with the appropriate sign.

9)



The net folds into a rectangular prism with dimensions 8 cm × 4 cm × 4 cm. What is its surface area?

☐ A. 128 cm^2
☐ B. 144 cm^2
☐ C. 160 cm^2
☐ D. 192 cm^2

10) Simplify: $6x^2 + 2x^2 - 3x$

☐ A. $8x^2 - 3x$
☐ B. $5x^2$
☐ C. $8x^2 - 3x^2$
☐ D. $5x^3$

11) Factor: $9m + 12$

☐ A. $3(3m + 4)$
☐ B. $9(m + 12)$
☐ C. $3m(3 + 4)$
☐ D. $12(0.75m + 1)$

12) A swimmer is currently 4 kg below their target weight. If they gain 0.5 kg per week, how many weeks w must pass to reach or exceed their target weight?

☐ A. $0.5w - 4 \geq 0$
☐ B. $0.5w \geq 4$
☐ C. $w \geq 8$
☐ D. $w \leq 8$

1) A rectangular garden is 10 m wide and 8 m tall. A triangular section is removed from the bottom, with the triangle's base being 10 m and height 2 m. What is the remaining area?

☐ A. 70 m^2
☐ B. 80 m^2
☐ C. 90 m^2
☐ D. 100 m^2

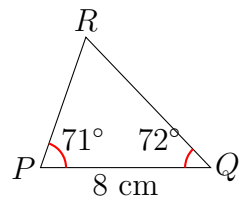
2) A histogram shows heights (in inches) of students in two grades. Grade 6's histogram peaks at 60–62 inches (range 55–68 inches). Grade 7's histogram peaks at 63–65 inches (range 58–70 inches). Based on this comparison, which statement is TRUE?

☐ A. Grade 7's typical height is greater, and distributions overlap from 58–68 inches
☐ B. Every Grade 7 student is taller than Grade 6
☐ C. Grade 6 is always shorter
☐ D. Grade 6 has more height variation

3) A rectangular prism has length 8 cm, width 6 cm, and height 10 cm. Convert its volume to liters if 1 liter = 1,000 cm^3.

☐ A. 0.48 L
☐ B. 480 L
☐ C. 48 L
☐ D. 4.8 L

4)



A triangle has angles of 71° and 72°, and the side between them is 8 cm. How many non-congruent triangles can be drawn?

☐ A. 1
☐ B. 2
☐ C. 3
☐ D. Infinitely many

5) Add: $-12 + 7 + (-5)$. Show your work.

6) Which is the best approximation for π?

☐ A. $\frac{22}{7}$
☐ B. 3
☐ C. 2.5
☐ D. 4

7) A gift box in the shape of a rectangular prism measures 12 in long, 8 in wide, and 5 in tall. A student needs to wrap it with paper. How many square inches of wrapping paper are needed (ignoring overlap)?

☐ A. 50 in^2
☐ B. 100 in^2
☐ C. 392 in^2
☐ D. 480 in^2

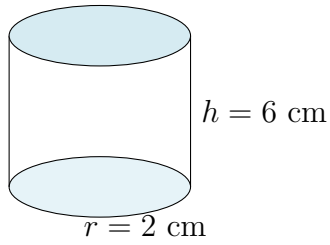
8) Identify which pair are NOT like terms.

☐ A. $6a^2$ and $9a^2$
☐ B. $5x$ and $5x^2$
☐ C. $-3y$ and $4y$
☐ D. $2mn$ and mn

9) Factor: $4c - 12d$

☐ A. $4(c - 3d)$
☐ B. $2(2c - 6d)$
☐ C. $12(c - d)$
☐ D. $c(4 - 12d)$

1)



What is the volume of the cylinder shown? Use $\pi \approx 3.14$.

☐ A. 37.68 cm^3
☐ B. 50.24 cm^3
☐ C. 75.36 cm^3
☐ D. 150.72 cm^3

2) In a class of 25 students, 15 play a sport. What percent of the students play a sport?

☐ A. 25%
☐ B. 40%
☐ C. 50%
☐ D. 60%

3)

Account Type	Annual Interest Rate
Savings Account	1.5%
Money Market	3%
Certificate of Deposit (CD)	4%

Keisha has $2 000 to deposit. If she wants to maximize her interest earnings in one year without restrictions, which account should she choose?

☐ A. Savings Account
☐ B. Money Market
☐ C. Certificate of Deposit
☐ D. None; interest rates are equal

4) An online retailer increases prices by 10% one month, then by 5% the next month. A customer claims this is the same as a single 15% increase. Is the customer correct?

☐ A. Yes, successive percent increases add.
☐ B. No; the true increase is 14.5%.
☐ C. No; $1.10 \times 1.05 = 1.155$, so the increase is 15.5%.
☐ D. They are exactly the same.

5) Solve: $-2(x + 1) < 10$

☐ A. $x > -6$
☐ B. $x < -6$
☐ C. $x < 6$
☐ D. $x > 6$

6) A healthcare study wants to compare health outcomes between two hospitals. If the study only surveys patients at Hospital A who are willing to complete the survey, what sampling error occurs?

☐ A. Measurement error only
☐ B. Voluntary response bias and selection bias
☐ C. Standard deviation increase
☐ D. Random sampling error

7) A spinner is spun 60 times, and section A appears 18 times. What is the experimental probability of landing on section A?

☐ A. 0.20
☐ B. 0.25
☐ C. 0.30
☐ D. 0.35

8) A scale model of a skyscraper is built with a scale of 1 : 200. The model is 45 cm tall. Which measurement is closest to the height of the actual building in meters?

☐ A. 45 m
☐ B. 90 m
☐ C. 450 m
☐ D. 900 m

Iowa Statewide Assessment of Student Progress 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 Statewide Assessment of Student Progress practice test.

Practice Test Answers and Explanations

Practice Test 1 Answers and Explanations

1) **Choice B is correct.** 7.G.1-7.G.5 An axial plane through a cone's apex intersects the base at a diameter, creating an isosceles triangle with two equal slant-height sides and a base equal to the diameter.

2) **Choice D is correct.** 7.RP.3 If vendor keeps 80% of sales, then $0.80 \times \text{sales} = 2400$. Sales $= 2400 \div 0.80 = \$3,000$.

3) **Choice C is correct.** 7.NS.2 $-\frac{1}{4} \times 8 = \frac{-8}{4} = -2$.

4) **Choice A is correct.** 7.RP.3 Plan X: $1100(1.04)^2 = 1189.76$. Plan Y: $1000(1.06)^2 = 1123.60$. Difference: $1189.76 - 1123.60 = 66.16 \approx 66$.

5) **Choice C is correct.** 7.G.1-7.G.5 With one side and one angle, we have insufficient information. Adding a second side gives SAS; adding a second angle gives ASA. Either approach uniquely determines the triangle.

6) **Choice D is correct.** 7.NS.1-7.NS.3 Absolute value represents distance from zero, which is never negative. Since -9 is 9 units from zero, $|-9| = 9$. The student confused the opposite with absolute value.

7) **Choice A is correct.** 7.NS.1b Both numbers are negative. Add their absolute values: $|-13| + |-7| = 13 + 7 = 20$. Since both are negative, the sum is -20.

8) **The correct answer is** -17 **.** 7.NS.1-7.NS.3 The new balance is $-5 - 12 = -17$. You now owe 17 dollars.

9) **Choice C is correct.** 7.G.4-7.G.6 Use $SA = 2(\ell w + \ell h + wh)$ with $\ell = 8$, $w = 4$, $h = 4$: $SA = 2(8 \cdot 4 + 8 \cdot 4 + 4 \cdot 4) = 2(32 + 32 + 16) = 2(80) = 160$ cm^2.

10) **Choice A is correct.** 7.EE.1 Combine x^2 terms: $(6 + 2)x^2 - 3x = 8x^2 - 3x$. The x term is not like the x^2 terms.

11) **Choice A is correct.** 7.EE.1-7.EE.2 The GCF of 9 and 12 is 3. So $9m + 12 = 3(3m + 4)$. (Option B confuses the constant. Option C factors only the variable. Option D uses a decimal.)

12) **Choice C is correct.** 7.EE.4b The swimmer must make up a 4 kg deficit at 0.5 kg/week: $0.5w \geq 4$. Divide by 0.5: $w \geq 8$ weeks.

13) **Choice C is correct.** 7.SP.1-7.SP.4 Asking every 10$^{\text{th}}$ visitor is systematic random sampling. Since the pattern (every 10th) doesn't depend on characteristics of individual visitors, it provides a representative, unbiased sample of all museum visitors.

14) **Choice C is correct.** 7.SP.5-7.SP.8 Die outcomes: 6 (rolling $1, 2, 3, 4, 5, 6$). Coin outcomes: 2 (heads or tails). Total compound outcomes: $6 \times 2 = 12$ distinct pairs (e.g., H1, H2, H3, ..., H6, T1, T2, ..., T6).

15) **Choice D is correct.** 7.RP.3 Option 1 interest: $3\% \times \$1{,}000 = \$30$. Option 2 interest: $5\% \times \$1{,}000 = \$50$. Difference: $\$50 - \$30 = \$20$.

16) **Choice A is correct.** 7.NS.1-7.NS.3 Option A differs by only $0.1 \times 10^{-2} = 0.001$. Other pairs differ by much larger amounts.

17) **Choice C is correct.** 7.EE.1-7.EE.2 An even exponent makes a negative base positive: $(-3)^2 = (-3) \cdot (-3) = 9$.

18) **The correct answer is A,D.** 7.RP.1-7.RP.3 True: A ($2 \times 40 = 80$ cm) and D (area scales by $(40)^2 = 1600$, so $3 \times 1600 = 4800$ cm^2). False: B (should be cm, not m); C (area scales quadratically); E (area scales by 1600, not 40).

19) **Choice D is correct.** 7.EE.4a Game is \$60 plus \$9.99 per bundle. Equation: $9.99b + 60 = 99.96$.

20) **Choice D is correct.** 7.G.1-7.G.5 Actual length: $4 \times 1.5 = 6$ m $= 600$ cm.

21) **Choice C is correct.** 7.G.1-7.G.5 Original scale 1:1 means 1 cm = 1 m. New scale 1:0.5 means 1 cm = 0.5 m. Real-world distance per cm halved (1 to 0.5), so drawing expands. Scale factor ratio: $0.5 \div 1 = 0.5$, so drawing expands by $1 \div 0.5 = 2$. New dimensions: $5 \times 2 = 10$ cm and $9 \times 2 = 18$ cm.

22) **Choice C is correct.** 7.G.1-7.G.5 Complementary angles sum to 90°: $M = 90 - 36 = 54°$.

23) **The correct answer is** 70 **.** 7.RP.1-7.RP.3 The unit rate is $140 \div 2 = 70$ miles per hour. This is the car's constant speed.

24) **Choice A is correct.** 7.SP.1-7.SP.4 Gym X: deviations = 0, 0, 1, 0, 1 (MAD ≈ 0.4). Gym Y: deviations = 11, 9, 1, 9, 6 (MAD ≈ 7.2). Gym X's tight cluster (44–46) vs. Gym Y's spread (30–50) shows Gym X is more consistent.

25) **The correct answer is** 150 **.** 7.RP.3 Compute $\frac{3}{4} \times 200 = 150$.

26) **Choice D is correct.** 7.SP.1-7.SP.4 Student A: Stem 6 (2 leaves) + Stem 7 (3 leaves) + Stem 8 (2 leaves) = 7 scores. Student B: Stem 6 (1 leaf) + Stem 7 (2 leaves) + Stem 8 (3 leaves) = 6 scores. Total = 7 + 6 = 13 scores.

27) **The correct answer is** 150 **.** 7.RP.3 Calculate $\frac{3}{5} \times 250 = \frac{3 \times 250}{5} = \frac{750}{5} = 150$ students.

Author's Note

The Power of Showing Work

Hi, Organized Solver!

◇ You practiced Grade 7 skills that often require more than one step. That means your written work matters. ◇

⋆ **Remember this:** Showing work is not extra. It is how you track your thinking, find errors, and prove that your answer did not happen by luck. You practiced across 7 full Grade 7 practice tests, and that repeated effort matters. ⋆

Organized Work Habits

- **One Line Per Step:** Keep the path readable.
- **Box the Answer:** Make the final result easy to find.
- **Use Labels:** Tell what each value represents.
- **Check the Path:** Follow your steps backward if needed.

Grade 7 test-day tip: When a problem has several steps, write less on each line. Space makes checking easier.

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

Jay Daie

Your Organized-Work Coach

Practice Today. Succeed Tomorrow!

This book includes 7 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:

- **7** 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

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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.

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- Expressions & Equations
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- Percents & Decimals
- Statistics & Probability
- Data Analysis
- Measurement & Conversions
- Algebraic Thinking
- And More!

2 ONLINE TESTS

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