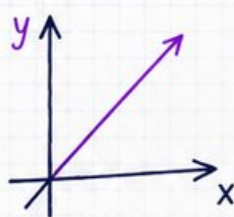


3 Iowa ISASP

GRADE
7
MATH

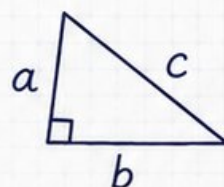
PRACTICE TESTS

- ✓ Standards Aligned
Problem Solving
For Comprehensive
Assessment Programs



$$y = mx + b$$

$$\frac{2}{3}x - \frac{4}{5} = \frac{1}{2}$$



$$3(x - 2) = 2x + 5$$



3 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
Math Skills



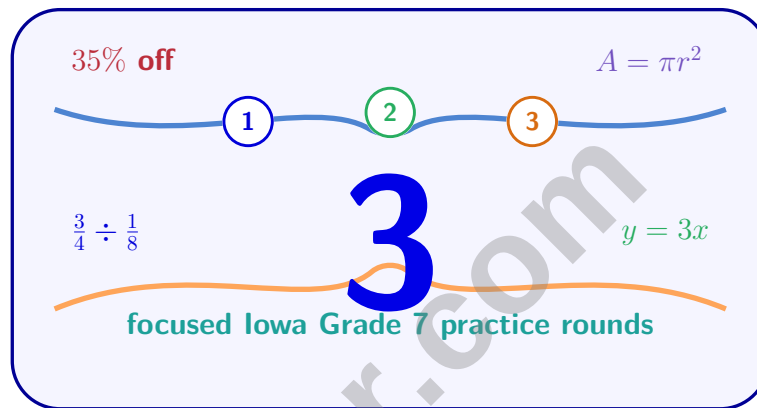
Detailed Answers
& Explanations



Improve Test
Performance

3 Iowa ISASP Grade 7 Math Practice Tests

Focused Grade 7 Review for Iowa ISASP Success



Three 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!

Three focused rounds for sharper ISASP math thinking

This book gives you three 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 three-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?

Three ISASP tests, 120 questions, and a focused review path

Part	What You Will Practice
Tests 1–2	Proportional relationships, unit rates, percents, rational-number operations, and careful reading.
Test 3	Expressions, equations, inequalities, scale drawings, geometry, data, probability, and multi-step problem solving.
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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Practice Test Answer Keys	_____	56
Practice Test Answers and Explanations	_____	59

1) A real estate agent earns a 2.5% commission on home sales. She sells a house for \$400,000. How much is her commission?

☐ A. \$6,000

☐ C. \$12,500

☐ B. \$40,000

☐ D. \$10,000

2) An athlete's predicted marathon time was 3.5 hours, but the actual time was 3.2 hours. What is the percent error?

☐ A. 9.4%

☐ C. 8.6%

☐ B. 10.9%

☐ D. 91.4%

3) Expand and simplify: $2(4p - 3) - 1$

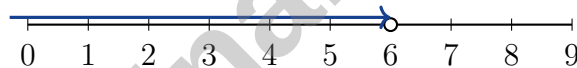
☐ A. $6p - 7$

☐ C. $8p - 7$

☐ B. $8p - 3$

☐ D. $8p - 6$

4) Which graph represents $w < 6$?



☐ A. Closed circle at 6 pointing right

☐ C. Closed circle at 6 pointing left

☐ B. Open circle at 6 pointing left

☐ D. Open circle at 6 pointing right

5) At noon, the temperature is 3°C . By midnight, the temperature falls to -12°C . How many degrees did the temperature drop?

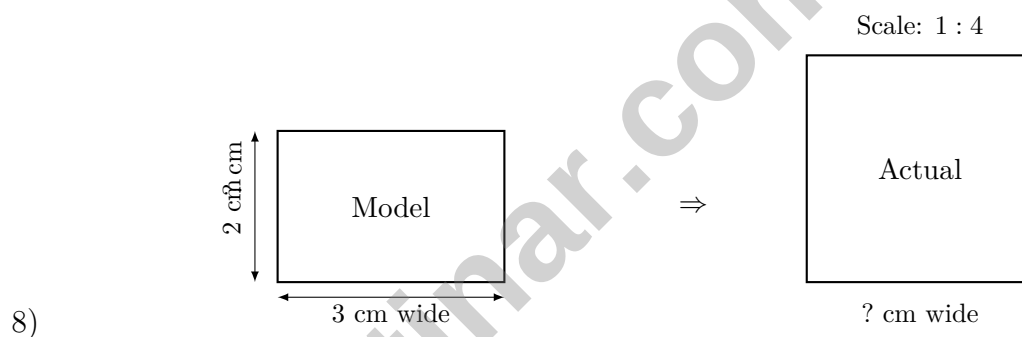


6) In the simple interest formula $I = Prt$, if all variables except the rate are held constant, which statement is true?

- ☐ A. Interest is inversely proportional to the rate ☐ C. Doubling the rate cuts the interest in half
☐ B. The rate does not affect the interest amount ☐ D. Interest is directly proportional to the rate

7) A cube has edge length 6 cm. Find its surface area.

- ☐ A. 36 cm^2 ☐ C. 144 cm^2
☐ B. 72 cm^2 ☐ D. 216 cm^2



If the scale factor is 1 : 4, what are the actual dimensions?

- ☐ A. $12 \text{ cm} \times 10 \text{ cm}$ ☐ C. $7 \text{ cm} \times 6 \text{ cm}$
☐ B. $0.75 \text{ cm} \times 0.5 \text{ cm}$ ☐ D. $12 \text{ cm} \times 8 \text{ cm}$



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9)

Category	Votes	Percent
Yes	56	70%
No	24	30%

In a class vote, 70% of students voted Yes. If there are 80 students total, how many voted Yes?

☐ A. 48☐ C. 60☐ B. 64☐ D. 56

10) A sports equipment store mistakenly labels a pair of shoes at \$72 after applying what they thought was a 20% discount to a \$90 cost. What discount rate was actually applied to reach \$72?

☐ A. 15%☐ C. 20%☐ B. 18%☐ D. 25%

11) What is $12 + (-5)$?

☐ A. 7☐ C. 17☐ B. -7☐ D. -17

12) Which expression represents “the product of a and b , increased by 10”?

☐ A. $a + b + 10$ ☐ C. $(a + b)(10)$ ☐ B. $ab + 10$ ☐ D. $10ab$

13) Simplify: $6x^2y + 3x^2y - 2x^2y$

☐ A. $7x^2y$ ☐ C. $7x^4y$ ☐ B. $11x^2y$ ☐ D. $4x^2y$ 

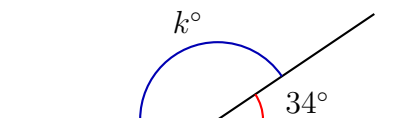
- 1) A table shows amount of fertilizer (pounds) and flower blooms produced.

Fertilizer (lb)	Blooms
2	24
3	36
4.5	54

If the relationship is proportional, what is the constant of proportionality?

- ☐ A. 10 blooms per lb ☐ C. 15 blooms per lb
☐ B. 18 blooms per lb ☐ D. 12 blooms per lb
- 2) A map has a scale of 3 cm : 10 km. A road that is 75 km long would measure how many centimeters on the map?
- ☐ A. 22.5 cm ☐ C. 30 cm
☐ B. 25 cm ☐ D. 250 cm
- 3) A rectangular prism has dimensions 4 cm $\times$ 6 cm $\times$ 8 cm. If a vertical plane cuts through it perpendicular to the base, which shape MUST appear in the cross-section?
- ☐ A. Square ☐ C. Trapezoid
☐ B. Rectangle ☐ D. Triangle

4)



A ray extends upward from a point on a horizontal line, creating angles of 34° and k° . These angles form a linear pair. What is the measure of angle k ?

- ☐ A. 34° ☐ C. 90°
☐ B. 56° ☐ D. 146°



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5) Two similar squares have side lengths in the ratio 2 : 5. If the smaller square has an area of 16 square units, what is the area of the larger square?

☐ A. 40 square units

☐ C. 125 square units

☐ B. 100 square units

☐ D. 225 square units

6) A circular pond has circumference 44 meters. Using $\pi \approx \frac{22}{7}$, what is its diameter?

☐ A. 7 m

☐ C. 22 m

☐ B. 14 m

☐ D. 44 m

7) A savings account has \$500. If the balance decreases by 12%, how much money is left in the account?

8) A circular pizza has a diameter of 14 inches. A square pizza has sides of 14 inches. Which pizza has the larger area? Use $\pi \approx \frac{22}{7}$.

☐ A. Circular pizza

☐ C. They have equal area

☐ B. Square pizza

☐ D. Cannot be determined



Scale: 1 cm : 2.5 m

3.6 cm $\times$ 2.4 cm

1)

A scale drawing of a loading dock is 3.6 cm by 2.4 cm with a scale of 1 cm : 2.5 m. What is the area of the actual loading dock in square meters?

☐ A. 8.64 m²☐ C. 54 m²☐ B. 21.6 m²☐ D. 81 m²

2) A probability model has outcomes $\{X, Y, Z\}$ with $P(X) = 0.45$, $P(Y) = 0.35$. Find $P(Z)$.

☐ A. 0.2☐ C. 0.8☐ B. 0.1☐ D. 0.9

3) A debit card withdraws money directly from your bank account. A credit card lets you borrow money and pay it back later. Which statement best describes a disadvantage of using a credit card?

☐ A. You can spend more money than you have in your account☐ C. You may pay interest if you do not pay the full balance☐ B. You build a credit history over time☐ D. You do not have to carry cash

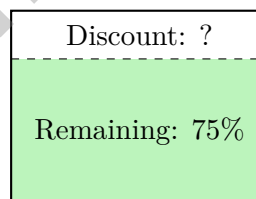
4) A proportional relationship is shown by a line through the origin and (4, 6). What is the constant of proportionality?



- 5) A retirement account balance nearly triples in 12 years with annual compound interest. Which rate is most consistent with this growth?

Rate	At 6 yrs	At 12 yrs	Multiplier	Triples?
2%	\$1,126	\$1,268	1.27x	No
6%	\$1,419	\$2,013	2.01x	No
9.5%	\$1,629	\$2,652	2.65x	Close!
15%	\$2,313	\$5,350	5.35x	No

- ☐ A. 2% ☐ C. 9.5%
☐ B. 6% ☐ D. 15%
- 6) A living room measures 18 feet by 14 feet. On a floor plan with scale $\frac{1}{2}$ inch to 4 feet, what is the area of the room on the floor plan in square inches?



7)

Original: \$120

A percent bar shows that 75% of the original price remains after a discount. The original price is \$120. What is the percent discount?

- ☐ A. 20% ☐ C. 75%
☐ B. 30% ☐ D. 25%



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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 D is correct.** (7.RP.3) Commission = commission rate $\times$ sales = $0.025 \times 400000 = \$10,000$.
- 2) **Choice A is correct.** (7.RP.3) Percent error = $\frac{|3.5-3.2|}{3.2} \times 100\% = \frac{0.3}{3.2} \times 100\% \approx 9.4\%$.
- 3) **Choice C is correct.** (7.EE.1-7.EE.2) Expand: $2(4p) - 2(3) - 1 = 8p - 6 - 1 = 8p - 7$.
- 4) **Choice B is correct.** (7.EE.4b) $w < 6$ is a strict inequality, so use an open circle at 6 with the arrow pointing left.
- 5) **The correct answer is 15.** (7.NS.1-7.NS.3) The temperature drop is $3 - (-12) = 3 + 12 = 15$ degrees.
- 6) **Choice D is correct.** (7.RP.3) In $I = Prt$, with P and t constant, I scales linearly with r . If r doubles, I doubles.
- 7) **Choice D is correct.** (7.G.4-7.G.6) A cube has 6 faces, each a square with side length 6 cm. $SA = 6s^2 = 6(6)^2 = 6(36) = 216 \text{ cm}^2$.
- 8) **Choice D is correct.** (7.RP.1-7.RP.3) Multiply each model dimension by scale factor 4: $3 \times 4 = 12 \text{ cm}$; $2 \times 4 = 8 \text{ cm}$.
- 9) **Choice D is correct.** (7.RP.3) 70% of 80 is $0.70 \times 80 = 56$ students.
- 10) **Choice C is correct.** (7.RP.3) If original is \$90 and sale price is \$72, then discount = $(90-72)/90 = 18/90 = 0.20 = 20\%$.
- 11) **Choice A is correct.** (7.NS.1b) Subtract the smaller absolute value from the larger: $|12| - |-5| = 12 - 5 = 7$. The larger absolute value is positive, so the answer is 7.
- 12) **Choice B is correct.** (7.EE.1-7.EE.2) Product of a and b is ab . Increased by 10 means add 10: $ab + 10$.
- 13) **Choice A is correct.** (7.EE.1) All terms have the same variables and exponents. Combine: $(6 + 3 - 2)x^2y = 7x^2y$.
- 14) **Choice A is correct.** (7.EE.1-7.EE.2) GCF of 20 and 24 is 4. Factor: $20y + 24 = 4(5y + 6)$. Choice B is not completely factored.
- 15) **Choice C is correct.** (7.SP.5-7.SP.8) First spin: 2 outcomes (A or B). Second spin: 2 outcomes. Total: $2 \times 2 = 4$ outcomes (AA, AB, BA, BB).
- 16) **Choice D is correct.** (7.RP.1-7.RP.3) The price per drink is $\frac{30}{5} = 6$ dollars. So $r = 6d$.
- 17) **Choice C is correct.** (7.RP.3) Using the proportion $\frac{28}{100} = \frac{x}{400}$, cross-multiply: $x = 112$ people prefer pizza.
- 18) **Choice D is correct.** (7.RP.3) The pattern increases by \$25 each month: Jan \$25, Feb \$50, Mar \$75, Apr \$100, May \$125.
- 19) **The correct answer is $\frac{35}{24}$.** (7.RP.1-7.RP.3) $\frac{7}{8} \cdot \frac{5}{3} = \frac{7}{8} \times \frac{5}{3} = \frac{35}{24}$.
- 20) **Choice D is correct.** (7.NS.1-7.NS.3) Scientific notation requires the coefficient a to satisfy $1 \leq a < 10$. The value 10.1 exceeds the upper bound.
- 21) **Choice B is correct.** (7.EE.1-7.EE.2) The zero exponent rule applies to any non-zero base, including negative bases: $(-4)^0 = 1$.
- 22) **The correct answer is A,B.** (7.SP.1-7.SP.4) Smartphones (45%) is the largest, so A is correct. Tablets (20%) plus smart watches (5%) make 25%, so B is correct. Laptops (30%) is not more than 50%, and smart watches (5%) are not more than 10%.
- 23) **Choice A is correct.** (7.EE.4a) Base charge is \$20; each extra text adds \$0.15. So $0.15n + 20 = 35.60$.
- 24) **Choice A is correct.** (7.EE.4b) When dividing by a negative number, always flip the inequality sign. Here: $-5x \geq 20 \Rightarrow x \leq -4$.
- 25) **The correct answer is 1.5.** (7.RP.1-7.RP.3) The unit price is \$1.50 per apple, so the constant of proportionality is 1.5.
- 26) **Choice B is correct.** (7.G.1-7.G.5) At scale 1:2, the drawing is 4×6 in representing a fixed real object. At scale 1:4, the same object is represented differently. The ratio of real-world per drawing unit goes from 2 to 4 (doubled), so the drawing must shrink by factor $4 \div 2 = 2$. New dimensions: $4 \div 2 = 2$ in and $6 \div 2 = 3$ in.
- 27) **Choice B is correct.** (7.G.1-7.G.5) First reflection over y -axis: $(3, 4) \rightarrow (-3, 4)$. Second reflection over x -axis: $(-3, 4) \rightarrow (-3, -4)$.
- 28) **Choice A is correct.** (7.SP.1-7.SP.4) Only people who choose to respond to the Facebook survey are included. This typically includes people with strong opinions (positive or negative), making it non-representative.



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◇ Grade 7 math rewards students who think before they calculate. You practiced choosing strategies, not just hunting for answers. This short, concentrated book gave you three focused Grade 7 practice tests, so you had repeated chances to build accuracy, pacing, and confidence. ◇

★ **Remember this:** That matters because stronger math students do not use one method for every question. They notice the structure and choose the tool that fits. ★

Strategy Moves

- **Estimate:** Know the neighborhood of the answer.
- **Simplify:** Rewrite numbers in friendlier forms.
- **Model:** Draw what the words describe.
- **Verify:** Put the answer back into the problem.

Grade 7 test-day tip: Pause for ten seconds before hard questions. A short plan can save several minutes.

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

Jay Daie

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