

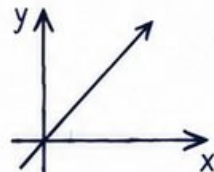
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Idaho
ISATGRADE
7
MATH

PRACTICE TESTS

Standards Aligned
Problem Solving
For Comprehensive
Assessment Programs

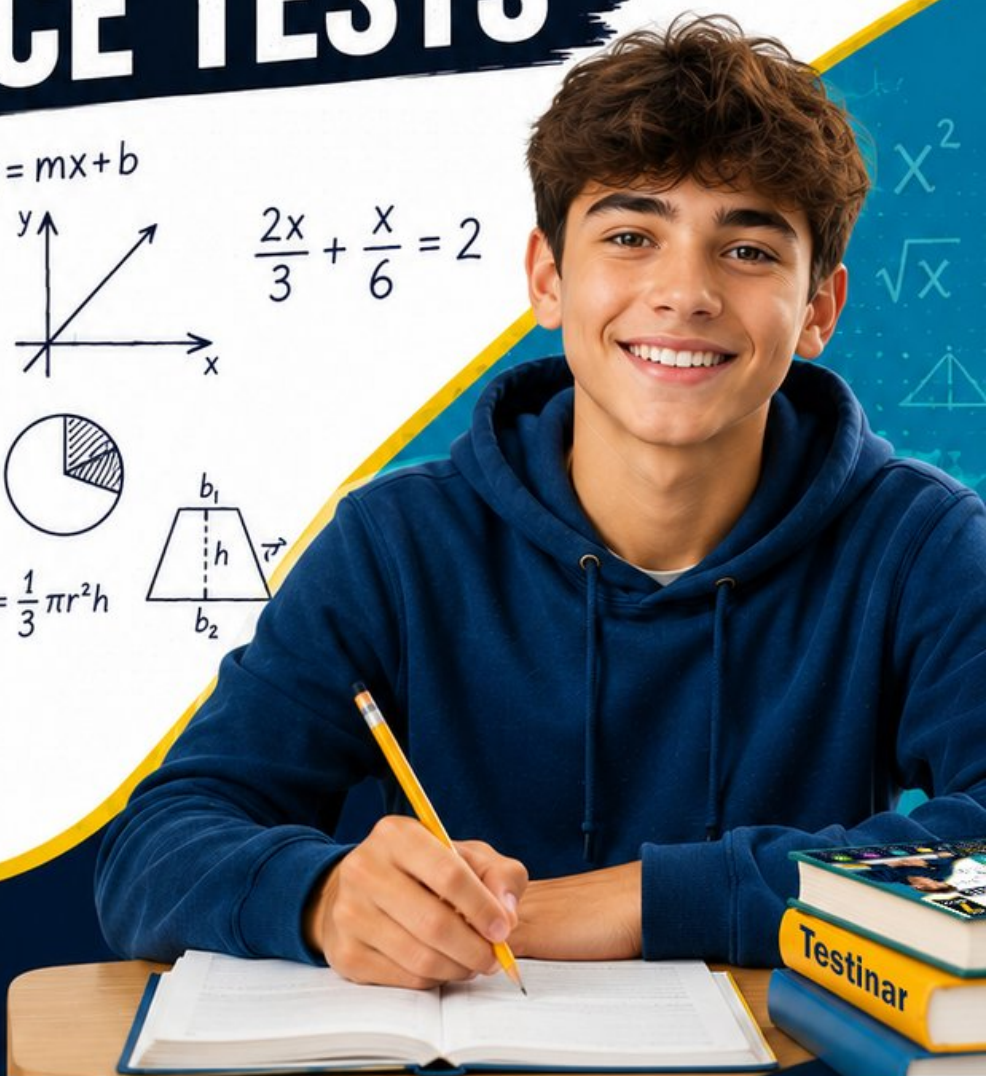
$$y = mx + b$$



$$\frac{2x}{3} + \frac{x}{6} = 2$$

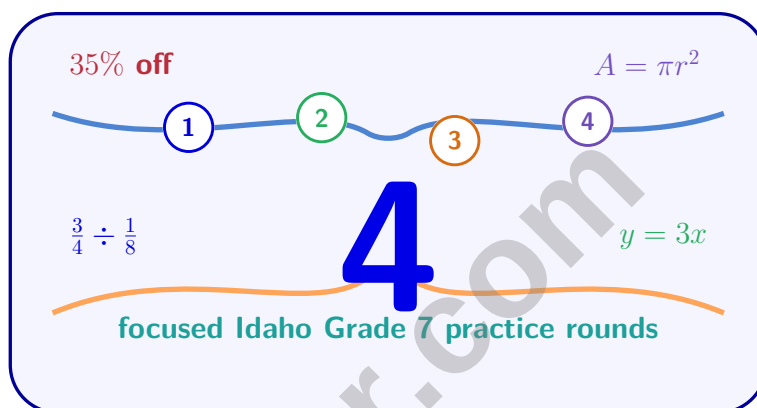


$$V = \frac{1}{3} \pi r^2 h$$

4 PRINTED
TESTS2 ONLINE
TESTSUSE THESE TWO
ADDITIONAL ONLINE
PRACTICE TESTSFOR EXTRA REVIEW AFTER
THE PRINTED TESTS
IN THIS BOOK.Build
ConfidenceStrengthen
Math SkillsDetailed Answers
& ExplanationsImprove Test
Performance

4 Idaho ISAT Grade 7 Math Practice Tests

Idaho Test Prep with Focused Practice and Clear Solutions



Four complete 40-question Grade 7 ISAT 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, Idaho Grade 7 Problem Solver!

Four focused rounds for sharper ISAT math thinking

This book gives you four full Grade 7 ISAT 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 Idaho 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 four-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.

Idaho 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?

Four ISAT tests, 160 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.
Tests 3–4	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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1) What is the GCF of $28xy$ and $42x$?

☐ A. $14x$

☐ C. $42x$

☐ B. $28xy$

☐ D. $7x$

2) A cylinder with a fixed volume of 100 cubic inches will have a greater height if the radius is:

☐ A. Smaller

☐ D. The height and radius are always equal

☐ B. Larger

☐ C. The height is independent of radius

3) Two chemical batches' purity levels (percentages):

Batch	Q1	Q3	Median
Batch Alpha	88	94	91
Batch Beta	90	93	91.5

For consistent, high-purity production, which batch is superior?

☐ A. Batch Alpha (wider IQR shows diversity in purity)

☐ C. Both are identical

☐ B. Batch Beta (narrower IQR = tighter quality, higher Q1)

☐ D. Cannot determine without knowing ranges

4) A box contains cards numbered 5 through 14. A card is drawn at random. What is the probability of drawing a card with a number divisible by 3?

☐ A. $\frac{1}{5}$

☐ C. $\frac{2}{5}$

☐ B. $\frac{3}{10}$

☐ D. $\frac{1}{3}$



5) A spinner with sections 1, 2, 3 is spun, and a coin is flipped. What is the probability of getting a number greater than 1 and a Tails?

☐ A. $\frac{1}{6}$

☐ C. $\frac{2}{3}$

☐ B. $\frac{1}{3}$

☐ D. $\frac{1}{2}$

6) A bag has 10 marbles: 4 red, 3 blue, and 3 green. If you draw one marble, what is the probability of drawing red OR blue?

☐ A. $\frac{7}{10}$

☐ C. $\frac{4}{10}$

☐ B. $\frac{3}{10}$

☐ D. $\frac{12}{100}$

7) Looking at the soccer team box plots again, where do the distributions overlap?

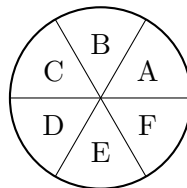
☐ A. From 4 to 6 hours (overlap of both boxes)

☐ C. Overlap occurs only at the medians

☐ B. No overlap exists between teams

☐ D. Team B completely contains Team A's range

8) A spinner divided into 6 equal sections was spun 180 times. A tally chart shows section C was selected 36 times. What fraction of the spins resulted in section C?



☐ A. $\frac{1}{6}$

☐ C. $\frac{36}{180}$

☐ B. $\frac{1}{4}$

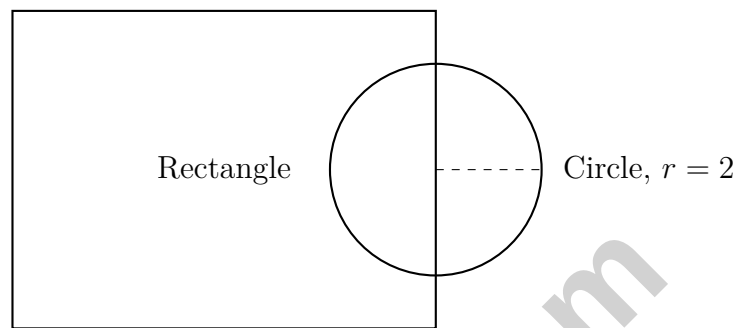
☐ D. 0.15



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- 9) A dataset has a minimum value of 34 and a maximum value of 89. If displayed in a stem-and-leaf plot with two-digit stems, how many stems would be needed?

☐ A. 5
☐ B. 6
☐ C. 7
☐ D. 8



10)

A composite figure has a rectangle ($8\text{ m} \times 6\text{ m}$) with a circle (radius 2 m) attached to one side. Using $\pi \approx 3.14$, what is the total area?

☐ A. 12.56 m^2
☐ B. 48 m^2
☐ C. 60.56 m^2
☐ D. 98.24 m^2

- 11) A triangular prism has a triangular base with area 42 mm^2 and volume 252 mm^3 . What is the height of the prism?

☐ A. 12 mm
☐ B. 8 mm
☐ C. 6 mm
☐ D. 3 mm



1) A student deposits money into an account earning 6% simple interest. After 4 years, the total is \$2480. What was the original deposit?

☐ A. \$1800☐ C. \$2000☐ B. \$1950☐ D. \$2200

2) If a square has a side length of 8 cm, what is its area?

☐ A. 16 cm²☐ C. 64 cm²☐ B. 32 cm²☐ D. 128 cm²

3) Which expression is equivalent to $2a + 2b + 2c$?

☐ A. $2(a + b + c)$ ☐ C. $2abc$ ☐ B. $2(a + b) + c$ ☐ D. $(2 + a)(2 + b)(2 + c)$

4) What is $-\frac{5}{8} \times \frac{4}{3}$?

☐ A. $-\frac{5}{6}$ ☐ C. $-\frac{9}{11}$ ☐ B. $\frac{5}{6}$ ☐ D. $\frac{20}{24}$

5) A salt water solution uses a ratio of 2 parts salt to 9 parts water. If you use 18 cups of water, how many cups of salt are needed?

☐ A. 2 cups☐ C. 4 cups☐ B. 3 cups☐ D. 6 cups

6) Temperature drops 20 degrees from 10 degrees. Express the drop (change) as a signed number.

☐ A. 20 (ignores the direction of change)☐ D. -20 (correct; drop is negative change)☐ B. 30 (adds instead of subtracts)☐ C. -10 (starting temperature)

- 7) A family's monthly expenses total \$2,500. If their monthly income is \$3,000, what percentage of their income do they spend?

- 8) Simplify: $-3x + 5x - x + 2x$

☐ A. $3x$

☐ C. $9x$

☐ B. $5x$

☐ D. $2x$

- 9) A cube has edge length 7 ft. What is the surface area?

☐ A. 49 ft^2

☐ C. 196 ft^2

☐ B. 98 ft^2

☐ D. 294 ft^2

- 10) In a simulation of drawing colored balls from a bag, which change would improve the reliability of the probability estimate?

☐ A. Using a smaller bag

☐ C. Using fewer colors

☐ B. Performing more trials

☐ D. Replacing the bag after each trial

- 11) Solve: $5x - 2 \geq 18$

☐ A. $x \geq 4$

☐ C. $x \geq 20$

☐ B. $x \leq 4$

☐ D. $x > 4$



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1) What percent is $\frac{1}{20}$?

☐ A. 2%

☐ C. 20%

☐ B. 50%

☐ D. 5%

2) A recipe calls for $3\frac{1}{2}$ cups of water. If you make $\frac{2}{3}$ of the recipe, how much water do you need? Express your answer as a mixed number.

3) A box plot shows video download times (in seconds) for two internet providers. Provider A: $Q1 = 8$, Median = 12, $Q3 = 16$. Provider B: $Q1 = 6$, Median = 12, $Q3 = 20$. Which provider has more consistent performance?

☐ A. Provider A (IQR = 8, tighter spread)

☐ C. Both providers are identical

☐ B. Provider B (IQR = 14, more flexible)

☐ D. Provider B (faster upper quartile)

4) An L-shaped yard has a vertical rectangle ($4\text{ m} \times 10\text{ m}$) and a horizontal rectangle ($6\text{ m} \times 4\text{ m}$) that overlap in a $4\text{ m} \times 4\text{ m}$ square. What is the total area?

☐ A. 48 m^2

☐ C. 80 m^2

☐ B. 64 m^2

☐ D. 104 m^2



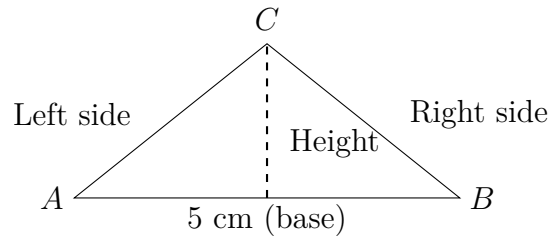
5) A rectangular prism has dimensions 5 m, 4 m, and 8 m. What is its volume?

☐ A. 320 m^3

☐ C. 40 m^3

☐ B. 160 m^3

☐ D. 17 m^3



6)

The triangle has a base of 5 cm and the two other sides are equal. What type of triangle is this?

☐ A. Equilateral

☐ C. Scalene

☐ B. Isosceles

☐ D. Right

7) If two circles have the same radius, what can you say about their diameters?

☐ A. The diameters are different

☐ C. One diameter is twice the other

☐ B. The diameters are the same

☐ D. Cannot be determined

8) A rectangular patio has area $36m + 54$ square feet. If the width is 18 feet, what is the length?

☐ A. $2m + 3$

☐ C. $3m + 3$

☐ B. $2m + 54$

☐ D. $36m$



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Idaho ISAT 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 Idaho ISAT practice test.

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Practice Test Answers and Explanations

Practice Test 1 Answers and Explanations

- 1) **Choice A is correct.** (7.EE.1-7.EE.2) GCF of 28 and 42 is 14. Both terms have x . GCF is $14x$.
- 2) **Choice A is correct.** (7.G.4-7.G.6) Since $V = \pi r^2 h$ is fixed, if r decreases, then $h = \frac{V}{\pi r^2}$ must increase to maintain the same volume.
- 3) **Choice B is correct.** (7.SP.1-7.SP.4) Batch Alpha: IQR = $94 - 88 = 6$. Batch Beta: IQR = $93 - 90 = 3$. Batch Beta's smaller IQR (tighter middle 50%) and higher Q1 (90 vs. 88) indicate more consistently high-purity output.
- 4) **Choice B is correct.** (7.SP.5-7.SP.8) Numbers: 5, 6, 7, 8, 9, 10, 11, 12, 13, 14 (10 total). Divisible by 3: 6, 9, 12 (3 outcomes). $P = \frac{3}{10}$.
- 5) **Choice B is correct.** (7.SP.5-7.SP.8) Total outcomes: $3 \times 2 = 6$. Favorable (number > 1 and Tails): 2T, 3T. Probability: $\frac{2}{6} = \frac{1}{3}$.
- 6) **Choice A is correct.** (7.SP.5-7.SP.8) Mutually exclusive: $P(\text{red}) + P(\text{blue}) = \frac{4}{10} + \frac{3}{10} = \frac{7}{10}$.
- 7) **Choice A is correct.** (7.SP.3) Team A's box spans 2–6 hours; Team B's box spans 4–9 hours. The overlap region is where both boxes exist: from 4 to 6 hours. This means both teams have students who practice in this shared range.
- 8) **Choice C is correct.** (7.SP.6) Experimental probability = $\frac{36}{180}$, which simplifies to $\frac{1}{5} = 0.20$. Note that this differs from the theoretical probability of $\frac{1}{6} \approx 0.167$ for an equally likely spinner.
- 9) **Choice B is correct.** (7.SP.1-7.SP.4) The values use stems 3, 4, 5, 6, 7, and 8, so 6 stems are needed.
- 10) **Choice C is correct.** (7.G.4-7.G.6) Rectangle: $8 \times 6 = 48 \text{ m}^2$. Circle: $3.14 \times 4 = 12.56 \text{ m}^2$. Total: $48 + 12.56 = 60.56 \text{ m}^2$.
- 11) **Choice C is correct.** (7.G.4-7.G.6) $h = \frac{V}{B} = \frac{252}{42} = 6 \text{ mm}$.
- 12) **Choice B is correct.** (7.G.1-7.G.5) Diagonal of a square with side s is $s\sqrt{2} = 6\sqrt{2} \text{ cm}$.
- 13) **The correct answer is 12.** (7.NS.1-7.NS.3) Both -12 and 12 are the same distance from zero, which is 12 units. They are opposites.
- 14) **Choice C is correct.** (7.G.4-7.G.6) In the same circle, sector area is proportional to central angle. Since $80^\circ = 2 \times 40^\circ$, Sector Y is twice as large as Sector X.
- 15) **The correct answer is -30 .** (7.NS.2) Change per minute is -7.5 meters. After 4 minutes: $(-7.5) \times 4 = -30$ meters.
- 16) **Choice B is correct.** (7.G.1-7.G.5) Three specific side lengths define exactly one unique triangle (up to congruence) by the SSS condition, provided the Triangle Inequality is satisfied. Check: $6.3 + 8.4 = 14.7 > 10.5$ ✓; all conditions hold, so exactly one triangle exists.
- 17) **Choice A is correct.** (7.SP.5-7.SP.8) A standard die has faces 1–6 only. Rolling a 7 is impossible, not merely unlikely. Probability = 0, not 0.1.
- 18) **Choice B is correct.** (7.SP.1-7.SP.4) Group 1: $\frac{24}{80} = 0.30$ or 30%; Group 2: $\frac{35}{100} = 0.35$ or 35%; Group 3: $\frac{27}{90} = 0.30$ or 30%. Group 2 is different.
- 19) **Choice D is correct.** (7.NS.1-7.NS.3) $-11 - (-5) = -11 + 5 = -6$.
- 20) **The correct answer is A,D.** (7.RP.1-7.RP.3) A and D are unit rates because each gives a price per single unit of weight. Option B is a distance, and option C is a total count.
- 21) **Choice B is correct.** (7.SP.1-7.SP.4) 14% of 600 = $0.14 \times 600 = 84$ residents.
- 22) **Choice D is correct.** (7.RP.1-7.RP.3) Multiply each dimension by the scale factor: $8 \times 2.5 = 20$ inches; $6 \times 2.5 = 15$ inches.
- 23) **Choice C is correct.** (7.RP.3) If $12 = 0.15 \times n$, then $n = \frac{12}{0.15} = 80$.
- 24) **Choice D is correct.** (7.RP.1-7.RP.3) Correct: $\frac{7/10}{1/5} = \frac{7}{10} \times \frac{5}{1} = \frac{35}{10} = \frac{7}{2} = 3.5 \text{ mph}$. The student multiplied $\frac{7}{10} \times \frac{1}{5} = \frac{7}{50} \text{ mph}$, forgetting to reciprocal the divisor fraction.
- 25) **The correct answer is 100.** (7.NS.1-7.NS.3) Perimeter = $4s = 40$, so $s = 10 \text{ cm}$. Area = $s^2 = 10^2 = 100 \text{ cm}^2$.
- 26) **Choice D is correct.** (7.RP.1-7.RP.3) A proportional relationship requires constant ratio $y/x = k$, not just increasing y values.
- 27) **Choice D is correct.** (7.RP.1-7.RP.3) The constant of proportionality is \$0.10 per minute, so $c = 0.10m$.



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Hi, Math Hero!

◇ This carefully paced book gave you four steady Grade 7 practice tests, so you had repeated chances to build accuracy, pacing, and confidence. You showed up for Grade 7 practice again and again. That is what real growth looks like: steady effort, honest review, and a willingness to try. ◇

★ **Remember this:** A math hero is not someone who never misses a question. A math hero learns from the miss and comes back stronger. ★

Hero Habits

- **Courage:** You try problems that are not automatic.
- **Honesty:** You review what needs work.
- **Patience:** You let skills grow over time.
- **Pride:** You recognize the effort you gave.

Grade 7 test-day tip: Save one solved problem you are proud of. Looking back at progress helps motivation stay strong.

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

Jay Daie

Your Math Hero Guide

PRACTICE TODAY. SUCCEED TOMORROW!

This book includes **4** full-length Math practice tests and **2** online tests to help Grade **7** students build confidence, strengthen skills, and excel on standardized assessments.

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Apply your knowledge and achieve your best score!

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