10 Iowa ISASP PRACTICE TESTS

GRADE 7 MATH

Standards Aligned Problem Solving For Comprehensive Assessment Programs

10 PRINTED TESTS
Realistic practice to build confidence and mastery

2 ONLINE TESTS
Extra practice for continued success

DETAILED ANSWER EXPLANATIONS
Learn with step-by-step solutions

FOCUSED & EFFECTIVE
Target key math skills with purposeful practice

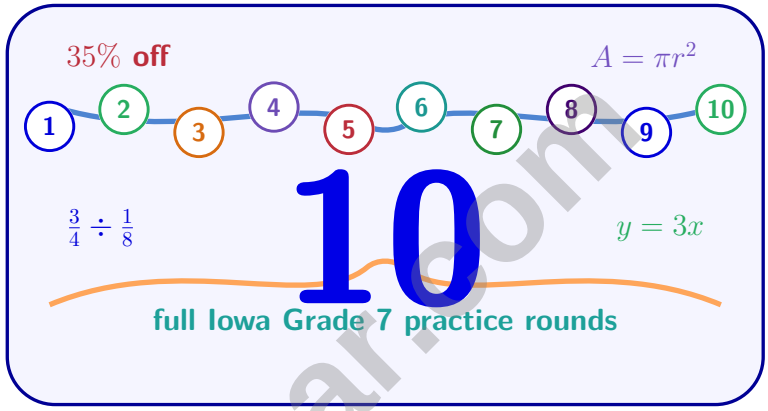
10 PRINTED TESTS +2 ONLINE TESTS

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

PRACTICE ★ REVIEW ★ SUCCEED

10 Iowa ISASP Grade 7 Math Practice Tests

Iowa Grade 7 ISASP Practice for steady Grade 7 growth in proportional reasoning, percent applications, algebra, geometry, and data



Ten 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!

Ten focused rounds for sharper Iowa ISASP math thinking

This book gives you ten 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

A ten-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?

Ten Iowa ISASP tests, 400 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.
Test 10	A final Iowa round to show growth across the whole book.
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

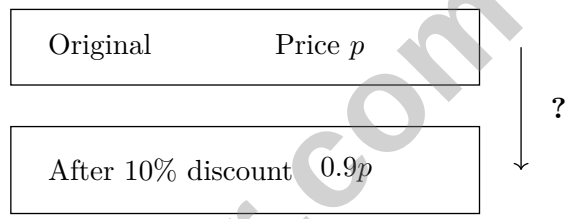
1) A museum surveyed 105 visitors and found 35 were children. The museum expects 3150 visitors this month. About how many are expected to be children?

☐ A. 700
☐ B. 875
☐ C. 1050
☐ D. 1225

2) A rectangle has width x and length $2x + 3$. If the perimeter is 36 cm, what is the width?

☐ A. $x = 4$ cm
☐ B. $x = 5$ cm
☐ C. $x = 6$ cm
☐ D. $x = 8$ cm

3)



Which expression correctly shows the relationship from the diagram?

☐ A. $0.9p = p - 0.1p$
☐ B. $0.9p = p + 0.1p$
☐ C. $0.9p = 1.1p$
☐ D. $0.9p = 0.1p$

4) An account with an initial deposit of \$600 at 11% annual compound interest is compared to simple interest at the same rate. After 2 years, the difference in interest is approximately:

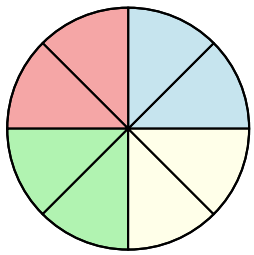
Year	Compound Balance	Simple Balance	Interest Earned (Cmpd)
0	\$600	\$600	–
1	\$666	\$666	\$66
2	\$739.26	\$732	\$139.26

☐ A. \$6.60
☐ B. \$132
☐ C. \$66
☐ D. \$7.26

5) A spinner is spun twice, and the compound event is "the first spin is different from the second spin." If the spinner has 3 equal sections, how many successful outcomes are there?

☐ A. 3
☐ B. 6
☐ C. 9
☐ D. 12

6)



A spinner has 8 equal sections: 2 blue, 2 red, 2 green, and 2 yellow. Which expression shows the complement rule for finding the probability of NOT spinning blue or red?

☐ A. $\frac{2}{8}$
☐ B. $\frac{3}{8}$
☐ C. $1 - \frac{1}{2}$
☐ D. $\frac{6}{8}$

7) Which of the following represents the complete sample space for flipping a coin and choosing a number from $\{1, 2, 3\}$?

$\{H1, H2, H3, T1, T2, T3\}$

☐ A. 3 outcomes
☐ B. 4 outcomes
☐ C. 5 outcomes
☐ D. 6 outcomes

8) A circle has radius 7 cm. Find its circumference using $\pi \approx \frac{22}{7}$.

9) A fair coin is flipped twice. What is the probability of getting heads BOTH times?

☐ A. $\frac{1}{8}$
☐ B. $\frac{1}{4}$
☐ C. $\frac{1}{2}$
☐ D. $\frac{3}{4}$

10) A student rolled a number cube and recorded the results in a bar graph. Out of 240 rolls, the number 6 appeared in 38 rolls. What is the experimental probability of rolling a 6?

☐ A. $\frac{1}{6}$
☐ B. $\frac{38}{240}$
☐ C. 0.19
☐ D. 0.60

11) **Distance Estimates (Miles)**

Route	Estimate	Actual
Bike Ride	12	15

What is the percent error for the bike ride distance?

☐ A. 80%
☐ B. 3%
☐ C. 20%
☐ D. 25%

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

☐ A. $2x + 22$
☐ B. $6x + 2$
☐ C. $2x + 2$
☐ D. $6x + 22$

13) A parent wants to save money for a child's education. If \$4500 is invested at 5.5% simple interest, what is the difference in total amount between 5 years and 3 years?

☐ A. \$247.50
☐ B. \$990
☐ C. \$742.50
☐ D. \$495

1) An athlete's heart rate readings during three 1-minute intervals are 120 bpm, 128 bpm, and 132 bpm. If the athlete's resting heart rate is 60 bpm, what is the average increase in heart rate during exercise (above resting)?

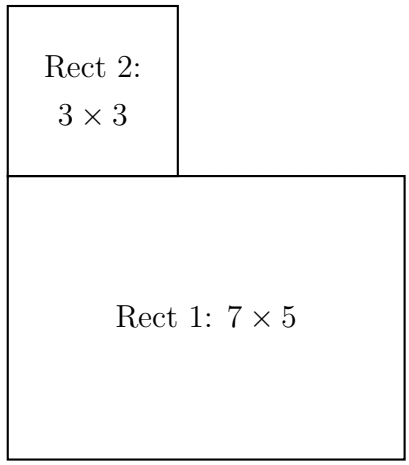
☐ A. 60 bpm
☐ B. 65 bpm
☐ C. 66.67 bpm
☐ D. 70 bpm

2) A student created a stem-and-leaf plot of plant heights (cm):

Stem	Leaves
8	2, 5, 9
9	1, 4, 6, 8
10	0, 3, 5, 7

A plant with height 94 cm was accidentally recorded as 49 cm. After correction, what is the new maximum?

☐ A. 94
☐ B. 107
☐ C. 98
☐ D. 105



3)

An L-shaped room consists of a large rectangle (7 m × 5 m) and a small rectangle (3 m × 3 m) attached at a corner. Which equation correctly finds the total area?

☐ A. $7 \times 5 \times 3 \times 3$
☐ B. $(7 + 5) + (3 + 3)$
☐ C. $7 \times 5 + 3 \times 3$
☐ D. $7 + 3 \times 5 + 3$

4) A rectangular prism has dimensions 2 feet, 3 feet, and 4 feet. A second rectangular prism has dimensions 4 feet, 6 feet, and 8 feet. How many times larger is the volume of the second prism than the first?

☐ A. 2 times
☐ B. 4 times
☐ C. 8 times
☐ D. 16 times

5) A loan of \$5000 at 8% simple interest is repaid after 2.5 years. What is the total amount repaid?

1) In a circle, how many different radii can you draw?

☐ A. 1
☐ B. 2
☐ C. Infinitely many
☐ D. 10

2) Which of the following is NOT in proper scientific notation?

☐ A. 3.8×10^5
☐ B. 9.2×10^{-3}
☐ C. 12.4×10^2
☐ D. 7.01×10^8

3) What is the degree measure of a sector that represents 11% of a circle?

4) Identify which pair of expressions are equivalent.

☐ A. $(3c + 2) + (4c - 1)$ and $7c + 1$
☐ B. $(6c + 5) - (2c + 3)$ and $4c + 8$
☐ C. $(2c + 3) + (5c - 2)$ and $7c + 1$
☐ D. $(9c - 4) - (3c + 1)$ and $6c - 5$

5) What is the value of 5^0?

☐ A. 0
☐ B. 1
☐ C. 5
☐ D. Undefined

6) A personal trainer charges a one-time consultation fee of \$50 and \$60 per session. The total for several sessions is \$290. Which equation finds s, the number of sessions?

☐ A. $60s + 50 = 290$
☐ B. $50s + 60 = 290$
☐ C. $60 + 50s = 290$
☐ D. $50(s + 60) = 290$

7) Solve for y: $5y - 3 = 22$

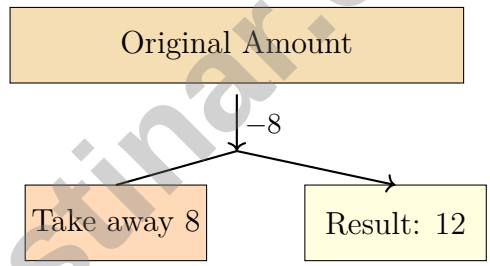
☐ A. $y = 3$
☐ B. $y = 5$
☐ C. $y = 19$
☐ D. $y = 25$

8) A carpenter charges \$180 for 6 hours of work. What is the hourly rate?

9) Solve for x: $2(x - 8) = 10$

☐ A. $x = 8$
☐ B. $x = 10$
☐ C. $x = 13$
☐ D. $x = 18$

10)



Using the model, what is the original amount?

☐ A. 4
☐ B. 12
☐ C. 20
☐ D. 24

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.

Practice Test Answers and Explanations

Practice Test 1 Answers and Explanations

1) **Choice C is correct.** 7.SP.1-7.SP.4 $\frac{35}{105} = \frac{x}{3150}$. Reduce: $\frac{1}{3} = \frac{x}{3150} \Rightarrow x = 1050$.
2) **Choice B is correct.** 7.EE.4a Perimeter: $2(x + 2x + 3) = 36$. Simplify: $2(3x + 3) = 36$. Distribute: $6x + 6 = 36$. Subtract 6: $6x = 30$. Divide: $x = 5$.
3) **Choice A is correct.** 7.EE.1-7.EE.2 The diagram shows a discount reduces price from p to $0.9p$. This means $0.9p = p - 0.1p$, factoring as $p(1 - 0.1)$.
4) **Choice D is correct.** 7.RP.3 Simple: $600 \times 0.11 \times 2 = 132$. Compound: $600(1.11)^2 = 739.26$; interest $= 139.26$. Difference: $139.26 - 132 = 7.26$.
5) **Choice B is correct.** 7.SP.5-7.SP.8 Sample space: $3 \times 3 = 9$ equally likely outcomes. Successful outcomes (first $\neq$ second): exclude $1-1, 2-2, 3-3$ (three outcomes where they match). Remaining: $9 - 3 = 6$ outcomes where they differ. Probability $= \frac{6}{9} = \frac{2}{3}$.
6) **Choice C is correct.** 7.SP.5-7.SP.8 Blue or red: $\frac{4}{8} = \frac{1}{2}$. Complement: $1 - \frac{1}{2} = \frac{1}{2} = \frac{4}{8}$.
7) **Choice D is correct.** 7.SP.5-7.SP.8 The sample space lists all 6 pairs: H1, H2, H3, T1, T2, T3.
8) **The correct answer is 44 .** 7.G.4-7.G.6 $C = 2\pi r = 2 \times \frac{22}{7} \times 7 = 2 \times 22 = 44$ cm.
9) **Choice B is correct.** 7.SP.5-7.SP.8 $P(H) \cdot P(H) = \frac{1}{2} \cdot \frac{1}{2} = \frac{1}{4}$.
10) **Choice B is correct.** 7.SP.6 Experimental probability $= \frac{\text{observed favorable outcomes}}{\text{total trials}} = \frac{38}{240} \approx 0.158$. This is the relative frequency from the observed data.
11) **Choice C is correct.** 7.RP.3 Percent error $= \frac{|12-15|}{15} \times 100\% = \frac{3}{15} \times 100\% = 20\%$.
12) **Choice A is correct.** 7.EE.1-7.EE.2 Expand: $4x + 12 - 2x + 10 = 2x + 22$. Combine like terms.
13) **Choice D is correct.** 7.RP.3 At 5 years: $I = 4500(0.055)(5) = \$1237.50$, so $A = \$5737.50$. At 3 years: $I = 4500(0.055)(3) = \$742.50$, so $A = \$5242.50$. Difference: $5737.50 - 5242.50 = \$495$.
14) **Choice A is correct.** 7.NS.1-7.NS.3 Distance is found using absolute value: $|-12-3| = |-15| = 15$ or equivalently $|3-(-12)| = 15$. Only choice A gives the correct distance.
15) **Choice D is correct.** 7.RP.1-7.RP.3 Multiply each dimension by the scale factor: $3 \times 8 = 24$ feet and $2.5 \times 8 = 20$ feet.
16) **Choice D is correct.** 7.RP.3 The original price is \$40 (since 75% of it is \$30). 25% of \$40 is $0.25 \times 40 = 10$ dollars.
17) **Choice D is correct.** 7.RP.3 Widget: discount $= (20 - 16)/20 = 4/20 = 0.20 = 20\%$. Gadget: discount $= (30 - 24)/30 = 6/30 = 0.20 = 20\%$. Both are 20% off.
18) **Choice D is correct.** 7.NS.1b Start at -8 on a number line and move 5 units right: $-8 + 5 = -3$.
19) **The correct answer is A,C.** 7.SP.3 A is correct: both groups have median = 30. C is correct: Group Beta's max is 55 vs. Alpha's 50. B is wrong: Group Beta's range (55–15=40) exceeds Group Alpha's (50–10=40), and IQR is similar, so they have comparable variability. D is wrong: Alpha's min (10) is less than Beta's (15).
20) **Choice D is correct.** 7.EE.1-7.EE.2 Substitute: $(3)^2 + 2(3)(2) = 9 + 12 = 15$.
21) **Choice A is correct.** 7.EE.1 All terms are like terms with variable xy. Combine: $(3 + 5 - 2)xy = 6xy$.
22) **Choice A is correct.** 7.EE.1-7.EE.2 GCF of $6xy$ and $9x$ is $3x$. Factor: $6xy + 9x = 3x(2y + 3)$.
23) **Choice B is correct.** 7.EE.4b Add 4: $3x \leq 15$. Divide by 3: $x \leq 5$.
24) **Choice B is correct.** 7.SP.1-7.SP.4 12.5% of $360° = 0.125 \times 360° = 45°$.
25) **The correct answer is 188.4 .** 7.G.4-7.G.6 Radius is half the diameter: $r = 3$ cm. Lateral area $= 2\pi rh \approx 2 \times 3.14 \times 3 \times 10 = 188.4$ cm^2.
26) **Choice D is correct.** 7.RP.1-7.RP.3 Unit rate $= \$84 \div 12 = \$7$ per photo.
27) **The correct answer is 2 .** 7.SP.1-7.SP.4 Compute $75 - 73 = 2$.
28) **Choice D is correct.** 7.RP.3 Interest $= 8\% \times \$2{,}000 = 0.08 \times 2000 = \$160$.
29) **Choice A is correct.** 7.NS.1-7.NS.3 Net change = Final temp − Initial temp $= -2 - (-4) = -2 + 4 = 2°$C.
30) **Choice B is correct.** 7.NS.1-7.NS.3 $12 \div 3 = 4$ but $3 \div 12 = \frac{1}{4} = 0.25$. Division is **not commutative**: changing the order changes the result. This is different from addition and multiplication.

Author's Note

A Math Hero Moment

Hi, Math Hero!

◇ This full-length book gave you ten complete 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 10 full-length Math practice tests and 2 extra 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:

- **10** 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
- Fractions & Decimals
- Percents
- Statistics & Probability
- Data Analysis
- Measurement & Conversions
- And More!

2 EXTRA 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!

VISIT TESTINAR.COM/MATH7

FOR MORE PRACTICE TESTS AND LEARNING RESOURCES.

PRACTICE REGULARLY | STAY FOCUSED | SOLVE CONFIDENTLY | SUCCEED BRIGHTLY

PRACTICE ★ REVIEW ★ SUCCEED