

10

Wisconsin

Forward Exam

GRADE

8

MATH

PRACTICE TESTS

Standards Aligned Problem Solving
For Comprehensive Assessment Programs

10

PRINTED
TESTS



2

ONLINE
TESTS



Build Confidence



Master Key Math Skills

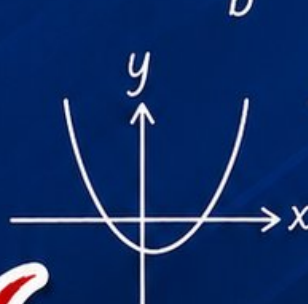
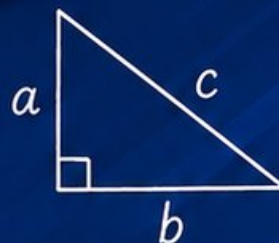


Answer Explanations for
Every Question



Test-Taking Strategies
That Work

$$y = mx + b$$



$$3x - 7 = 2(x + 5)$$
$$x = 17$$

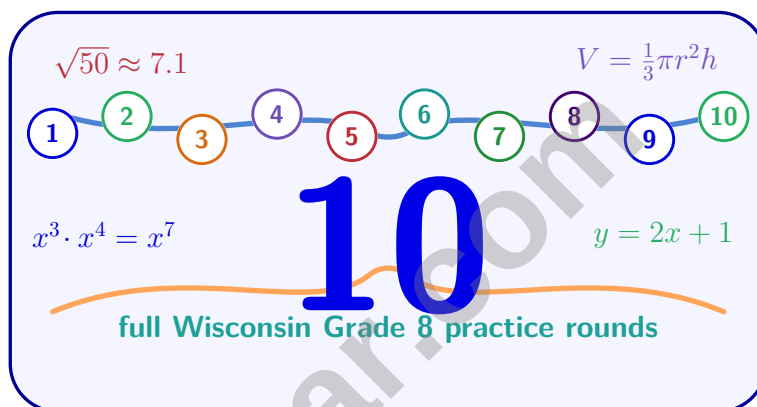


USE THESE TWO
ADDITIONAL ONLINE
PRACTICE TESTS

FOR EXTRA REVIEW AFTER
THE PRINTED TESTS
IN THIS BOOK.

10 Wisconsin Forward Exam Grade 8 Math Practice Tests

Wisconsin Grade 8 Forward Exam Practice for lake-country readiness in rates, exponent reasoning, expressions, surface area, data analysis, and chance



Ten complete 40-question Grade 8 Forward Exam practice rounds with linear relationships, scientific notation, real numbers, equations, functions, geometry, data analysis, probability, answer keys, and clear explanations for every item.

Jay Daie and Reza Nazari



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Welcome, Wisconsin Grade 8 Problem Solver!

Ten focused rounds for sharper Wisconsin Forward Exam math thinking

This book gives you ten full Grade 8 Forward Exam math practice tests. Each round is built to help you notice structure, compare quantities, use linear reasoning, handle real numbers, and explain your thinking with care.

Grade 8 standards focus: This page supports **Congruent Figures** (M.8.G.A.2): Understand that a two-dimensional figure is congruent to another if the second can be obtained by a sequence of rotations, reflections, and translations. The same routine helps with **Turning Repeating Decimals into Fractions** (M.8.G.A.1): Convert a decimal expansion which repeats eventually into a rational number.

Your Wisconsin 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 ten-session plan for confident Grade 8 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.

Grade 8 standards focus: Keep the routine connected to **Angles in Triangles and Parallel Lines** (M.8.G.A.5): Use informal arguments to establish facts about the angle sum and exterior angle of triangles, about angles created when parallel lines are cut by a transversal, and the.... You will also meet **Understanding Scientific Notation** (M.8.EE.A.3): Use numbers expressed in the form of a single digit times an integer power of 10 to estimate very large or very small quantities.

Wisconsin 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 Wisconsin Forward Exam tests, 400 questions, and a complete review path

Part	What You Will Practice
Tests 1–3	Linear relationships, integer exponents, scientific notation, real-number reasoning, and careful reading.
Tests 4–6	Expressions, equations, inequalities, transformations, geometry, and multi-step problem solving.
Tests 7–9	Data analysis, probability, mixed review, stamina, and choosing efficient strategies.
Test 10	A final Wisconsin 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 8 success means recognizing which idea is being tested even when the next question changes format.

Grade 8 standards focus: Use these habits while practicing **Finding Distance with the Pythagorean Theorem** (M.8.G.B.8): Apply the Pythagorean Theorem to find the distance between two points in a coordinate system. A second useful connection is **Solving Linear Equations in One Variable** (M.8.EE.C.7b): Solve linear equations in one variable, including equations with one solution, infinitely many solutions, or no solutions.



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For more practice
& answers

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1) Which table represents the linear function $y = 4x - 2$?

☐ A.

x	y
0	-2
1	2
2	6

☐ B.

x	y
0	4
1	5
2	6

☐ C.

x	y
0	2
1	6
2	10

☐ D.

x	y
0	0
1	4
2	8

2) A composite solid consists of a cube with edge 2 cm on top of a rectangular prism base with dimensions $4 \times 4 \times 3$ cm (where the cube sits on one face of the prism, sharing a 2×2 face). Ignoring the shared face, what is the combined surface area?

☐ A. 60 cm^2

☐ C. 84 cm^2

☐ B. 76 cm^2

☐ D. 96 cm^2

3) Three cones have the same height $h = 5$ cm but different radii: $r_1 = 2$ cm, $r_2 = 3$ cm, $r_3 = 4$ cm. Which lists their volumes in order from smallest to largest? (Use $\pi \approx 3.14$.)

☐ A. r_1, r_2, r_3

☐ D. Cannot be ordered without computing

☐ B. r_3, r_2, r_1

☐ C. All equal volume

4) The equation of a line of best fit for a scatter plot is $y = 1.5x + 20$. What does the slope of 1.5 represent?

☐ A. For every 1 unit increase in x , y increases by 1.5 units

☐ C. The starting value of y when $x = 0$

☐ B. For every 1 unit increase in x , y increases by 20 units

☐ D. For every 1 unit increase in x , y decreases by 1.5 units



5) A computer downloads files at 15 MB per second. How many MB are downloaded in 2.5 seconds?

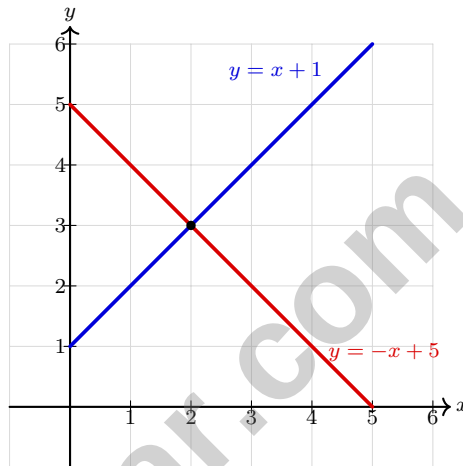
☐ A. 30 MB

☐ C. 37.5 MB

☐ B. 35 MB

☐ D. 40 MB

6) Which ordered pair is the solution to the system shown on the graph?



☐ A. (3, 4)

☐ C. (2, 3)

☐ B. (1, 2)

☐ D. $(\frac{5}{2}, \frac{7}{2})$

7) Factor $4x^2 - 9$.

☐ A. $(2x - 3)(2x + 3)$

☐ C. $(2x - 3)^2$

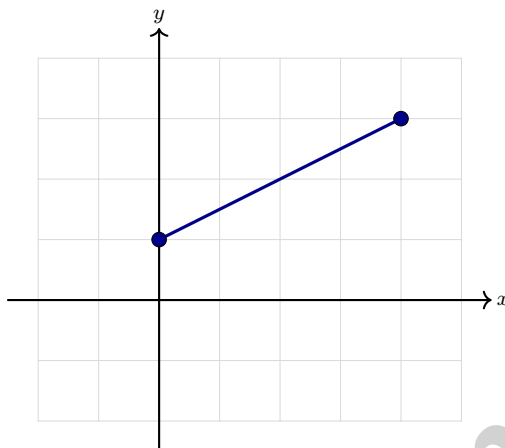
☐ B. $(4x - 9)(x + 1)$

☐ D. $(x - 3)(4x + 3)$



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8) What is the domain of the graphed function?



☐ A. $\{0, 1, 2, 3, 4\}$

☐ B. $[0, 4]$

☐ C. $\{1, 3\}$

☐ D. All real numbers

9) A principal of \$3,000 is invested at 5% compound interest annually. What is the amount after 2 years (rounded to nearest cent)?

10) Function through $(1, 4)$ and $(3, 8)$. Slope is?

☐ A. 1

☐ B. 2

☐ C. 3

☐ D. 4



1) Which value is irrational?

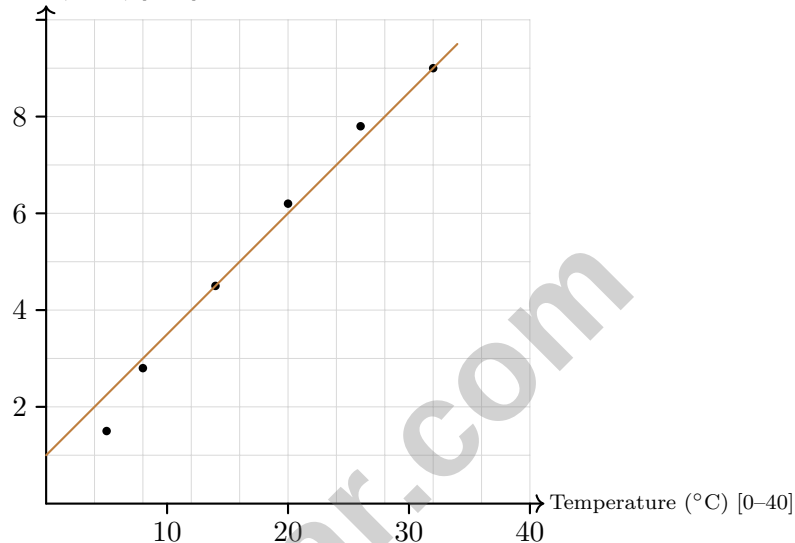
☐ A. $\sqrt{16}$

☐ B. $\sqrt{9}$

☐ C. $\sqrt{7}$

☐ D. $\sqrt{25}$

Ice Cream Sales (\$1000) [0–10]



2)

The scatter plot shows temperature versus ice cream sales. What is the approximate y -intercept (sales when temperature is 0°C)?

☐ A. \$1000

☐ B. \$0

☐ C. \$2000

☐ D. \$3000

3) Three similar figures X , Y , and Z have corresponding sides in the ratios $X : Y = 3 : 4$ and $Y : Z = 4 : 7$. If X has a side of 6 cm, what is the length of the corresponding side in Z ?

☐ A. 14 cm

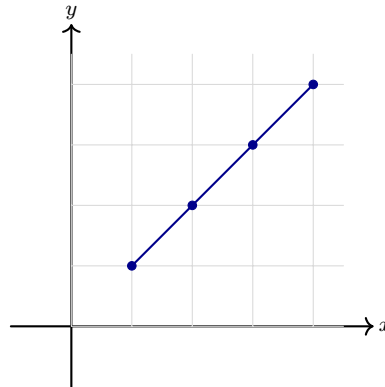
☐ B. 10.5 cm

☐ C. 8 cm

☐ D. 18 cm



- 4) The graph shows function h . Which of the following is true?

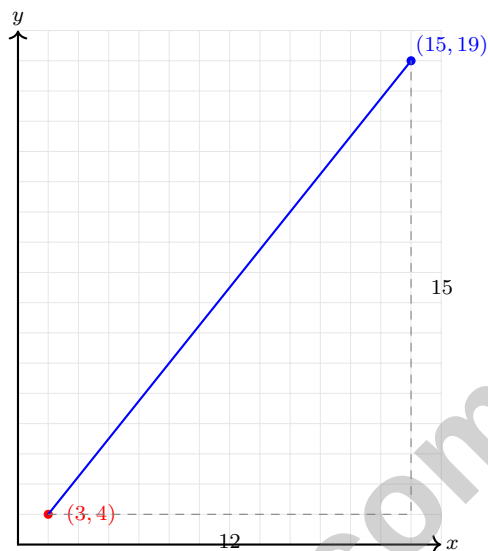


- ☐ A. $h(2) = 3$
☐ C. $h(3) = 2$
☐ B. $h(1) = 1$
☐ D. $h(4) = 3$
- 5) Which set correctly separates rational and irrational numbers?
- ☐ A. Rational: all decimals; Irrational: all square roots
☐ B. Rational: $\sqrt{2}$, $\frac{1}{3}$; Irrational: $0.\overline{3}$, $\sqrt{9}$
☐ C. Rational: π , $0.101001\dots$; Irrational: $\frac{7}{2}$, $\sqrt{16}$
☐ D. Rational: $\sqrt{4}$, 0.5 ; Irrational: π , $\sqrt{10}$
- 6) The sum of two people's ages is 35. In 5 years, the older person will be twice the age of the younger person. If the younger person is currently y years old, find y .



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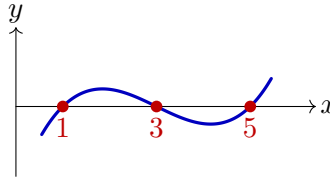
- 1) A construction site has a diagonal brace from (3, 4) to (15, 19). What is the length of the brace (rounded to nearest unit)?



- ☐ A. 27 units
- ☐ B. 19 units
- ☐ C. 20 units
- ☐ D. 15 units
- 2) Simplify $\frac{20x^9}{5x^3}$.
- ☐ A. x^6
- ☐ B. $4x^{12}$
- ☐ C. $15x^6$
- ☐ D. $4x^6$



- 3) A function has zeros at $x = 1$, $x = 3$, and $x = 5$. What does a zero represent on the graph?



- ☐ A. Where the graph crosses the y -axis ☐ C. Where the function is undefined
☐ B. Where the graph reaches its maximum ☐ D. Where the function value is zero (the x -intercept)
- 4) A phone company charges \$25 per month plus \$0.10 per text message. What is the total monthly cost for 100 texts?

- 5) A student earns \$15 per hour. Which table represents this relationship?

Hours	1	2	3
Earnings (\$)	15	30	45

What is the slope?

- ☐ A. 15 ☐ C. 30
☐ B. $\frac{1}{15}$ ☐ D. $\frac{15}{30}$



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& answers

Wisconsin Forward Exam Grade 8 Practice Test Answer Keys

How to use this section with a Grade 8 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 Wisconsin Forward Exam practice test.

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Practice Test Answers and Explanations

Practice Test 1 Answers and Explanations

- Choice A is correct.** (M.8.F.B.4) When $x = 0$: $y = 4(0) - 2 = -2$. When $x = 1$: $y = 4(1) - 2 = 2$. When $x = 2$: $y = 4(2) - 2 = 6$. This matches option A.
- Choice D is correct.** (M.8.G.C.9) The rectangular prism has surface area $2(16 + 12 + 12) = 80 \text{ cm}^2$. The cube has surface area $6(2^2) = 24 \text{ cm}^2$. The shared 2×2 face is counted twice, so subtract $2(4)$. The composite surface area is $80 + 24 - 8 = 96 \text{ cm}^2$.
- Choice A is correct.** (M.8.G.C.9) Since height is constant, volume depends on r^2 . $r_1^2 = 4 < r_2^2 = 9 < r_3^2 = 16$. Order: smallest to largest is r_1, r_2, r_3 .
- Choice A is correct.** (M.8.SP.A.3) The slope is the rate of change. A slope of 1.5 means for every 1-unit increase in x , y increases by 1.5.
- Choice C is correct.** (M.8.EE.B.5) Proportional: $y = 15x$. For $x = 2.5$: $y = 15(2.5) = 37.5 \text{ MB}$.
- Choice C is correct.** (M.8.EE.C.8a) Verify $(2, 3)$: $y = 2 + 1 = 3$ ✓ and $y = -2 + 5 = 3$ ✓. The marked intersection point is $(2, 3)$.
- Choice A is correct.** (M.8.EE.C.7) Difference of squares: $4x^2 - 9 = (2x)^2 - 3^2 = (2x - 3)(2x + 3)$.
- Choice B is correct.** (M.8.F.A.1) The segment starts at $x = 0$ and ends at $x = 4$. The domain includes all x -values in this range: $[0, 4]$.
- The correct answer is \$3,307.50.** (M.8.G.B.7) $A = 3000(1.05)^2 = 3000 \times 1.1025 = \$3,307.50$.
- Choice B is correct.** (M.8.F.A.2) Slope = $(8 - 4)/(3 - 1) = 4/2 = 2$.
- Choice D is correct.** (M.8.F.A.3) $y = x^3$ has x raised to the power 3, making it nonlinear. The other three options are all linear (form $y = mx + b$).
- Choice B is correct.** (M.8.G.A.2) If the quadrilaterals are congruent with P corresponding to T , then $\angle P$ must equal $\angle T$. Since $75^\circ \neq 85^\circ$, the claim of congruence is false.
- Choice C is correct.** (M.8.G.A.3) Under 180° rotation, $(x, y) \rightarrow (-x, -y)$: $(1, 0) \rightarrow (-1, 0)$, $(3, 0) \rightarrow (-3, 0)$, $(2, 3) \rightarrow (-2, -3)$.
- Choice C is correct.** (M.8.G.C.9) Prism: $V_p = B \times h = 25 \times 15 = 375 \text{ cm}^3$. Pyramid: $V_{py} = \frac{1}{3} \times 25 \times 15 = 125 \text{ cm}^3$. Ratio: $\frac{375}{125} = 3$.
- Choice B is correct.** (M.8.G.B.7) Trapezoid area = $\frac{1}{2}(b_1 + b_2) \times h = \frac{1}{2}(8 + 12) \times 6 = \frac{1}{2} \times 20 \times 6 = 60 \text{ cm}^2$.
- Choice B is correct.** (M.8.G.A.5) Sum of angles in a pentagon is 540° . Two angles are 120° each, totaling 240° . The remaining three angles sum to $540 - 240 = 300^\circ$. Each of the three equal angles: $\frac{300}{3} = 100^\circ$.
- Choice B is correct.** (M.8.SP.A.4) This is a row-conditional frequency. Girls in sports = $120 - 72 = 48$. Relative to sports players only: $\frac{48}{120} = \frac{2}{5}$.
- Choice A is correct.** (M.8.G.B.8) Absolute deviations: $|2 - 4.5| = 2.5$ (twice), $|4 - 4.5| = 0.5$ (three times), $|6 - 4.5| = 1.5$ (twice), $|8 - 4.5| = 3.5$. Sum = $5 + 1.5 + 3 + 3.5 = 13$. MAD = $13/8 = 1.625$.
- Choice D is correct.** (M.8.EE.A.1) Any nonzero number raised to the power 0 equals 1: $8^0 = 1$.
- Choice B is correct.** (M.8.F.B.5) A zero of f is a value of x where $f(x) = 0$. This is exactly where the graph crosses the x -axis (x -intercept). Same point, same concept, two names.
- The correct answer is A, C.** (M.8.G.B.7) A is correct: $P(\text{heads}) = \frac{1}{2}$. C is correct: $P(\text{heads and 4}) = \frac{1}{2} \times \frac{1}{6} = \frac{1}{12}$. B is wrong: $P(4) = \frac{1}{6}$. D is wrong: total outcomes = 12. E is wrong: $P(\text{not heads}) = \frac{1}{2}$.
- Choice B is correct.** (M.8.G.A.5) Sum: $(2m + 5) + (3m - 10) + (m + 35) = 180 \implies 6m + 30 = 180 \implies m = 25$. Thus angle $A = 2(25) + 5 = 55^\circ$.
- Choice B is correct.** (M.8.G.B.8, M.8.G.B.7) From $(\sqrt{24})^2 + 1^2 = c^2$, we get $24 + 1 = 25$, so $c = \sqrt{25} = 5$.
- Choice A is correct.** (M.8.G.B.8) $d = \sqrt{(5 - 2)^2 + (7 - 3)^2} = \sqrt{3^2 + 4^2} = \sqrt{9 + 16} = \sqrt{25} = 5$ units.
- Choice B is correct.** (M.8.G.B.7) Corresponding angles are congruent: $7z - 8 = 5z + 20 \implies 2z = 28 \implies z = 14^\circ$.



The Power of Showing Work

Hi, Organized Solver!

◇ You practiced Grade 8 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 10 full Grade 8 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 8 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 **10** full-length Math practice tests and **2** online tests to help Grade 8 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 Answers
& 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



**Build
Confidence**

Practice regularly to feel prepared and test-ready.



**Master
Key Skills**

Develop strong math skills and problem solving abilities.



**Improve
Understanding**

Learn with clear explanations and step-by-step solutions.



**Test
Strategies**

Learn proven strategies to approach every question with confidence.



**Boost
Performance**

Apply your knowledge and achieve your best score!

TOPICS COVERED

- | | |
|---------------------------|----------------------------|
| ✓ The Number System | ✓ Statistics & Probability |
| ✓ Expressions & Equations | ✓ Data Analysis |
| ✓ Inequalities | ✓ Measurement |
| ✓ Functions | ✓ Pythagorean Theorem |
| ✓ Geometry | ✓ Surface Area & Volume |
| ✓ Ratios & Proportions | ✓ 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!

Don't lose it—your extra practice and success start here!



PRACTICE
REGULARLY



STAY
FOCUSED



SOLVE
CONFIDENTLY



SUCCEED
BRIGHTLY