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Algebra 1 Readiness Packet

Rising 9th Graders • 60 Days • 5 Questions Per Day

Student Name:

Teacher / Parent:

Answers are located at the back of this packet.

How to Use This Packet

This packet prepares rising 9th graders for Algebra 1 by reviewing the essential 8th-grade / pre-algebra standards. Complete one page (5 questions) per day for 60 days.

Tips for Success:

- Complete one day per day — no rush, no pressure!
- Show all work — don't just write the final answer.
- Try all 5 questions before checking the Answer Key.
- The Answer Key is at the back — use it to check work after each day.
- Review any missed concepts before moving on to the next day.

Topics by Week:

Week 1	Integers, Order of Operations, Fractions, Ratios, Proportions & Percents
Week 2	Algebraic Expressions — Evaluating, Combining Like Terms, Distributive Property
Week 3	Solving One-Step, Two-Step & Multi-Step Equations
Week 4	Inequalities, Compound Inequalities & Absolute Value Equations
Week 5	Coordinate Plane, Functions, Graphing Lines & Slope
Week 6	Writing Linear Equations, Parallel/Perpendicular Lines & Applications
Week 7	Systems of Equations — Graphing, Substitution & Elimination
Week 8	Exponent Rules, Scientific Notation, Square & Cube Roots
Week 9	Introduction to Polynomials — Operations & Basic Factoring
Week 10	Geometry Connections — Pythagorean Theorem, Area, Volume & Transformations
Week 11	Statistics & Probability — Data, Scatter Plots & Probability
Week 12	Comprehensive Algebra 1 Readiness Review

Day 1 Integer Operations

Name: _____

1. What is $-8 + 5$?

Answer: _____

2. What is $-12 - (-7)$?

Answer: _____

3. What is $(-4) \times 6$?

Answer: _____

4. What is $(-36) \div (-9)$?

Answer: _____

5. What is $7 - 15$?

Answer: _____

Score: ___ / 5

Day 2 Order of Operations (PEMDAS)

Name: _____

1. Evaluate: $3 + 4 \times 2$

Answer: _____

2. Evaluate: $(3 + 4) \times 2$

Answer: _____

3. Evaluate: $2^3 + 5 \times 2$

Answer: _____

4. Evaluate: $20 - 3 \times (4 - 1)$

Answer: _____

5. Evaluate: $(8 - 2)^2 \div 4$

Answer: _____

Score: ___ / 5

Day 3 Fractions & Decimals

Name: _____

1. Add: $\frac{1}{4} + \frac{1}{3}$

Answer: _____

2. Subtract: $\frac{5}{6} - \frac{1}{2}$

Answer: _____

3. Multiply: $\frac{2}{3} \times \frac{3}{4}$

Answer: _____

4. Divide: $\frac{1}{2} \div \frac{1}{4}$

Answer: _____

5. Convert 0.75 to a fraction in simplest form.

Answer: _____

Score: ____ / 5

Day 4 Ratios & Proportions

Name: _____

1. Simplify the ratio 12:18 to lowest terms.

Answer: _____

2. Solve the proportion: $\frac{3}{4} = \frac{x}{20}$

Answer: _____

3. A recipe uses 2 cups flour for 3 cups sugar. How much flour for 9 cups sugar?

Answer: _____

4. If 5 pencils cost \$2, how much do 15 pencils cost?

Answer: _____

5. Solve: $\frac{6}{x} = \frac{2}{5}$

Answer: _____

Score: ___ / 5

Day 5 Percents

Name: _____

1. What is 25% of 80?

Answer: _____

2. What is 15% of 200?

Answer: _____

3. 20 is what percent of 50?

Answer: _____

4. A \$40 shirt is on sale for 25% off. What is the sale price?

Answer: _____

5. A population grows from 200 to 250. What is the percent increase?

Answer: _____

Score: ___ / 5

Day 6 Evaluating Expressions

Name: _____

1. Evaluate $3x + 5$ when $x = 4$.

Answer: _____

2. Evaluate $x^2 - 2x$ when $x = 3$.

Answer: _____

3. Evaluate $2(a + b)$ when $a = 5$, $b = 3$.

Answer: _____

4. Evaluate $(x + y)/2$ when $x = 8$, $y = 4$.

Answer: _____

5. Evaluate $-3x^2$ when $x = 2$.

Answer: _____

Score: ___ / 5

Day 7 Combining Like Terms

Name: _____

1. Simplify: $3x + 5x$

Answer: _____

2. Simplify: $7y - 2y + 4$

Answer: _____

3. Simplify: $4a + 3b - a + 2b$

Answer: _____

4. Simplify: $2x^2 + 3x - x^2 + x$

Answer: _____

5. Simplify: $5 - 3x + 8 + x$

Answer: _____

Score: ___ / 5

Day 8 The Distributive Property

Name: _____

1. Expand: $3(x + 4)$

Answer: _____

2. Expand: $-2(x - 5)$

Answer: _____

3. Expand: $4(2x + 3y)$

Answer: _____

4. Simplify: $5(x + 2) + 3x$

Answer: _____

5. Simplify: $2(x - 1) - 3(x + 2)$

Answer: _____

Score: ___ / 5

Day 9 Translating Words to Expressions

Name: _____

1. Write an expression for 'five more than a number x '.

Answer: _____

2. Write an expression for 'twice a number decreased by 3'.

Answer: _____

3. Write an expression for 'the sum of a number and 7, divided by 2'.

Answer: _____

4. Write an expression for 'a number multiplied by itself'.

Answer: _____

5. Write an expression for '8 less than three times a number'.

Answer: _____

Score: ___ / 5

Day 10 Exponent Rules — Intro

Name: _____

1. Simplify: $x^3 \cdot x^4$

Answer: _____

2. Simplify: x^8 / x^3

Answer: _____

3. Simplify: $(x^2)^3$

Answer: _____

4. Evaluate: x^0 (for $x \neq 0$)

Answer: _____

5. Evaluate: 2^{-2}

Answer: _____

Score: ___ / 5

Day 11 One-Step Equations

Name: _____

1. Solve: $x + 7 = 12$

Answer: _____

2. Solve: $x - 4 = 9$

Answer: _____

3. Solve: $5x = 35$

Answer: _____

4. Solve: $x/3 = 6$

Answer: _____

5. Solve: $-x = 8$

Answer: _____

Score: ___ / 5

Day 12 Two-Step Equations

Name: _____

1. Solve: $2x + 3 = 11$

Answer: _____

2. Solve: $3x - 5 = 16$

Answer: _____

3. Solve: $x/2 + 4 = 10$

Answer: _____

4. Solve: $-2x + 1 = 9$

Answer: _____

5. Solve: $4x + 7 = -5$

Answer: _____

Score: ___ / 5

Day 13 Multi-Step Equations

Name: _____

1. Solve: $2(x + 3) = 14$

Answer: _____

2. Solve: $3x + 5 = x + 11$

Answer: _____

3. Solve: $5(x - 2) = 3x + 4$

Answer: _____

4. Solve: $4x - 3 = 2x + 9$

Answer: _____

5. Solve: $2(x - 1) + 3 = 7$

Answer: _____

Score: ___ / 5

Day 14 Equations with Fractions & Decimals

Name: _____

1. Solve: $x/4 + 2 = 5$

Answer: _____

2. Solve: $(1/2)x - 3 = 1$

Answer: _____

3. Solve: $0.5x + 3 = 8$

Answer: _____

4. Solve: $(x + 1)/3 = 4$

Answer: _____

5. Solve: $2x/3 = 8$

Answer: _____

Score: ___ / 5

Day 15 Word Problems — Equations

Name: _____

1. A number plus 8 equals 20. What is the number?

Answer: _____

2. Three times a number minus 4 equals 11. Find the number.

Answer: _____

3. The perimeter of a rectangle is 24 cm and its length is 7 cm. Find its width. ($P = 2l + 2w$)

Answer: _____

4. Sam has \$5 more than twice what Jo has. If Sam has \$25, how much does Jo have?

Answer: _____

5. A taxi charges \$3 plus \$2 per mile. If the total fare is \$15, how many miles were traveled?

Answer: _____

Score: ___ / 5

Day 16 One-Step Inequalities

Name: _____

1. Solve: $x + 4 > 9$

Answer: _____

2. Solve: $x - 3 \leq 7$

Answer: _____

3. Solve: $5x \geq 20$

Answer: _____

4. Solve: $-2x < 8$

Answer: _____

5. Solve: $x/3 < 2$

Answer: _____

Score: ___ / 5

Day 17 Multi-Step Inequalities

Name: _____

1. Solve: $2x + 3 < 11$

Answer: _____

2. Solve: $3x - 5 \geq 4$

Answer: _____

3. Solve: $-4x + 2 \leq 10$

Answer: _____

4. Solve: $5 - 2x > 1$

Answer: _____

5. Solve: $3(x - 1) \geq 12$

Answer: _____

Score: ___ / 5

Day 18 Compound Inequalities

Name: _____

1. Solve: $-3 < x + 2 < 5$

Answer: _____

2. Solve: $1 \leq 2x - 1 \leq 7$

Answer: _____

3. Graph the solution: $x \geq 3$ (describe the graph)

Answer: _____

4. Write a compound inequality for 'x is between -2 and 6, including both'.

Answer: _____

5. Solve: $-6 \leq -2x < 4$

Answer: _____

Score: ___ / 5

Day 19 Absolute Value Equations

Name: _____

1. Solve: $|x| = 7$

Answer: _____

2. Solve: $|x - 3| = 5$

Answer: _____

3. Solve: $|2x| = 10$

Answer: _____

4. Solve: $|x + 4| = 0$

Answer: _____

5. What is $|-9|$?

Answer: _____

Score: ___ / 5

Day 20 Mixed Review — Weeks 1–4

Name: _____

1. Evaluate: $-2^3 + 4 \times 3$

Answer: _____

2. Solve: $4x - 7 = 2x + 5$

Answer: _____

3. Simplify: $3(2x - 1) + 4$

Answer: _____

4. Solve: $-3x + 6 \leq 0$

Answer: _____

5. What is 30% of 150?

Answer: _____

Score: ____ / 5

Day 21 The Coordinate Plane

Name: _____

1. What are the coordinates of the origin?

Answer: _____

2. In which quadrant is the point $(-3, 4)$?

Answer: _____

3. In which quadrant is the point $(5, -2)$?

Answer: _____

4. Plot the point $(2, 3)$. Which axis is it 2 units from?

Answer: _____

5. What is the x-coordinate of any point on the y-axis?

Answer: _____

Score: ___ / 5

Day 22 Relations & Functions

Name: _____

1. What is a function?

Answer: _____

2. Is $\{(1,2), (2,4), (3,6)\}$ a function?

Answer: _____

3. Is $\{(1,2), (1,5), (2,4)\}$ a function?

Answer: _____

4. What is the domain of a function?

Answer: _____

5. What is the range of a function?

Answer: _____

Score: ___ / 5

Day 23 Graphing Linear Equations

Name: _____

1. Find the y-intercept of $y = 3x - 4$.

Answer: _____

2. Find the x-intercept of $y = 2x - 6$.

Answer: _____

3. Is $(2, 5)$ a solution to $y = 2x + 1$?

Answer: _____

4. Complete the table for $y = x + 2$ when $x = 0, 1, 2$.

Answer: _____

5. What shape is the graph of a linear equation?

Answer: _____

Score: ___ / 5

Day 24 Slope

Name: _____

1. What is the slope formula given two points (x_1, y_1) and (x_2, y_2) ?

Answer: _____

2. Find the slope between $(1, 2)$ and $(4, 11)$.

Answer: _____

3. Find the slope between $(0, 5)$ and $(3, 5)$.

Answer: _____

4. Find the slope between $(2, 3)$ and $(2, 8)$.

Answer: _____

5. Find the slope between $(-1, 4)$ and $(3, -4)$.

Answer: _____

Score: ___ / 5

Day 25 Slope-Intercept Form

Name: _____

1. What does the 'm' represent in $y = mx + b$?

Answer: _____

2. What does the 'b' represent in $y = mx + b$?

Answer: _____

3. Write the equation of a line with slope 2 and y-intercept -3 .

Answer: _____

4. What is the slope and y-intercept of $y = -5x + 7$?

Answer: _____

5. Rewrite $2x + y = 8$ in slope-intercept form.

Answer: _____

Score: ___ / 5

Day 26 Writing Equations from
Graphs/Points

Name: _____

1. Write the equation of a line through (0, 4) with slope 3.

Answer: _____

2. Write the equation of a line through (1, 5) with slope 2.

Answer: _____

3. Write the equation of a line through (2, 7) and (4, 11).

Answer: _____

4. Write the equation of a horizontal line through (3, -2).

Answer: _____

5. Write the equation of a vertical line through (5, 1).

Answer: _____

Score: ___ / 5

Day 27 Parallel & Perpendicular Lines

Name: _____

1. What is true about the slopes of parallel lines?

Answer: _____

2. What is true about the slopes of perpendicular lines?

Answer: _____

3. Find the slope of a line parallel to $y = 4x - 1$.

Answer: _____

4. Find the slope of a line perpendicular to $y = (2/3)x + 5$.

Answer: _____

5. Are $y = 3x + 2$ and $y = 3x - 7$ parallel, perpendicular, or neither?

Answer: _____

Score: ___ / 5

Day 28 Standard Form & Point-Slope Form

Name: _____

1. What is the standard form of a linear equation?

Answer: _____

2. What is the point-slope form of a linear equation?

Answer: _____

3. Write the point-slope equation for a line through (3, 2) with slope 4.

Answer: _____

4. Convert $y - 1 = 2(x - 3)$ to slope-intercept form.

Answer: _____

5. Convert $3x + 2y = 12$ to slope-intercept form.

Answer: _____

Score: ___ / 5

Day 29 Linear Function Word Problems

Name: _____

1. A taxi charges \$3 plus \$1.50 per mile. Write a function for the cost $c(m)$.

Answer: _____

2. Using $c(m) = 1.5m + 3$, find the cost for a 10-mile ride.

Answer: _____

3. A gym membership costs \$20 to join plus \$15 per month. Write a function for total cost.

Answer: _____

4. A plant is 5 cm tall and grows 2 cm per week. Write a function for height $h(w)$.

Answer: _____

5. Using $h(w) = 2w + 5$, how tall is the plant after 6 weeks?

Answer: _____

Score: ___ / 5

Day 30 Mixed Review — Weeks 5–6

Name: _____

1. Find the slope between $(-2, 1)$ and $(2, 9)$.

Answer: _____

2. Write the equation of a line with slope -1 through $(2, 3)$.

Answer: _____

3. Is $(4, 2)$ on the line $y = (1/2)x$?

Answer: _____

4. What is the y-intercept of $2x - 3y = 6$?

Answer: _____

5. Are the lines $y = (1/3)x + 1$ and $y = -3x + 2$ perpendicular?

Answer: _____

Score: ___ / 5

Day 31 Systems — Graphing

Name: _____

1. What does the solution to a system of equations represent graphically?

Answer: _____

2. How many solutions does a system have if the lines are parallel?

Answer: _____

3. How many solutions does a system have if the lines are the same?

Answer: _____

4. Is $(2, 3)$ a solution to the system $y = x + 1$ and $y = -x + 5$?

Answer: _____

5. How many solutions does a system have if the lines intersect at one point?

Answer: _____

Score: ___ / 5

Day 32 Systems — Substitution

Name: _____

1. Solve by substitution: $y = x + 2$ and $x + y = 10$

Answer: _____

2. Solve by substitution: $y = 2x$ and $3x + y = 15$

Answer: _____

3. Solve by substitution: $x = y + 3$ and $2x + y = 12$

Answer: _____

4. Solve by substitution: $y = 3x - 1$ and $y = x + 5$

Answer: _____

5. Solve by substitution: $x + y = 7$ and $y = 2x - 2$

Answer: _____

Score: ___ / 5

Day 33 Systems — Elimination

Name: _____

1. Solve by elimination: $x + y = 8$ and $x - y = 2$

Answer: _____

2. Solve by elimination: $2x + y = 11$ and $x + y = 7$

Answer: _____

3. Solve by elimination: $3x + 2y = 16$ and $x + 2y = 8$

Answer: _____

4. Solve by elimination: $4x + 3y = 18$ and $4x - y = 2$

Answer: _____

5. Solve by elimination: $x + y = 5$ and $2x + y = 9$

Answer: _____

Score: ___ / 5

Day 34 Systems — Word Problems

Name: _____

1. The sum of two numbers is 20 and their difference is 4. Find the numbers.

Answer: _____

2. Tickets cost \$5 for adults and \$3 for children. 8 tickets were sold for \$34 total. How many of each?

Answer: _____

3. A jar has nickels and dimes worth \$2.00, with 25 coins total. How many of each?

Answer: _____

4. Two numbers have a sum of 15. One number is 3 more than the other. Find the numbers.

Answer: _____

5. A boat travels downstream and upstream. Set up a system: boat speed + current = 20, boat speed – current = 15. Find boat speed and current.

Answer: _____

Score: ___ / 5

Day 35 Mixed Review — Week 7

Name: _____

1. Solve: $x + y = 9$ and $x - y = 3$

Answer: _____

2. Solve: $y = 4x$ and $x + y = 10$

Answer: _____

3. How many solutions: $y = 2x + 1$ and $y = 2x - 3$?

Answer: _____

4. Solve: $2x - y = 1$ and $x + y = 5$

Answer: _____

5. The sum of two numbers is 30, and one is twice the other. Find the numbers.

Answer: _____

Score: ___ / 5

Day 36 Laws of Exponents

Name: _____

1. Simplify: $x^5 \cdot x^2$

Answer: _____

2. Simplify: $(x^3)^4$

Answer: _____

3. Simplify: $(2x)^3$

Answer: _____

4. Simplify: x^6 / x^4

Answer: _____

5. Simplify: $(x^2y^3)^2$

Answer: _____

Score: ___ / 5

Day 37 Negative & Zero Exponents

Name: _____

1. Evaluate: 5^0

Answer: _____

2. Evaluate: 4^{-1}

Answer: _____

3. Simplify: x^{-3}

Answer: _____

4. Simplify: $(1/2)^{-2}$

Answer: _____

5. Simplify: $x^3 \cdot x^{-5}$

Answer: _____

Score: ___ / 5

Day 38 Scientific Notation

Name: _____

1. Write 4,500,000 in scientific notation.

Answer: _____

2. Write 0.00032 in scientific notation.

Answer: _____

3. Write 3.2×10^3 in standard form.

Answer: _____

4. Write 7×10^{-2} in standard form.

Answer: _____

5. Multiply: $(2 \times 10^3)(3 \times 10^2)$

Answer: _____

Score: ___ / 5

Day 39 Square Roots & Cube Roots

Name: _____

1. Evaluate: $\sqrt{64}$

Answer: _____

2. Evaluate: $\sqrt{121}$

Answer: _____

3. Evaluate: $\sqrt[3]{27}$

Answer: _____

4. Between which two integers is $\sqrt{50}$?

Answer: _____

5. Simplify: $\sqrt{48}$

Answer: _____

Score: ___ / 5

Day 40 Mixed Review — Weeks 7–8

Name: _____

1. Simplify: $(3x^2)(2x^3)$

Answer: _____

2. Write 0.000056 in scientific notation.

Answer: _____

3. Evaluate: $\sqrt{100} + \sqrt{16}$

Answer: _____

4. Solve the system: $x + y = 12$, $x - y = 2$

Answer: _____

5. Simplify: $x^4 \cdot x^{-2}$

Answer: _____

Score: ___ / 5

Day 41 Identifying Polynomials

Name: _____

1. What is a monomial?

Answer: _____

2. What is a binomial?

Answer: _____

3. What is the degree of $4x^3 - 2x + 1$?

Answer: _____

4. What is the degree of the term $5x^2y^3$?

Answer: _____

5. Is $3x^{-1} + 2$ a polynomial? Why or why not?

Answer: _____

Score: ___ / 5

Day 42 Adding & Subtracting Polynomials

Name: _____

1. Add: $(3x^2 + 2x - 1) + (x^2 - x + 4)$

Answer: _____

2. Subtract: $(5x^2 - 3x) - (2x^2 + x)$

Answer: _____

3. Add: $(2x + 3) + (4x - 7)$

Answer: _____

4. Subtract: $(x^2 + 5x + 6) - (x^2 - 2x + 1)$

Answer: _____

5. Simplify: $(3x - 2) + (x^2 + x - 5)$

Answer: _____

Score: ___ / 5

Day 43 Multiplying Polynomials

Name: _____

1. Multiply: $3x(2x + 5)$

Answer: _____

2. Multiply: $(x + 2)(x + 3)$

Answer: _____

3. Multiply: $(x - 4)(x + 4)$

Answer: _____

4. Multiply: $(x + 1)^2$

Answer: _____

5. Multiply: $(2x - 1)(x + 3)$

Answer: _____

Score: ___ / 5

Day 44 Factoring — GCF & Simple Trinomials

Name: _____

1. Factor out the GCF: $4x^2 + 8x$

Answer: _____

2. Factor: $x^2 + 7x + 12$

Answer: _____

3. Factor: $x^2 - 5x + 6$

Answer: _____

4. Factor: $x^2 - 25$

Answer: _____

5. Factor: $x^2 + 4x$

Answer: _____

Score: ___ / 5

Day 45 Mixed Review — Week 9

Name: _____

1. Simplify: $(2x^2 + 3x) + (x^2 - x + 4)$

Answer: _____

2. Multiply: $(x - 5)(x + 2)$

Answer: _____

3. Factor: $x^2 - 9$

Answer: _____

4. What is the degree of the polynomial $7x^5 - 3x^2 + x$?

Answer: _____

5. Factor: $2x^2 + 6x$

Answer: _____

Score: ___ / 5

Day 46 Pythagorean Theorem

Name: _____

1. State the Pythagorean Theorem.

Answer: _____

2. Find the hypotenuse of a right triangle with legs 3 and 4.

Answer: _____

3. Find the hypotenuse of a right triangle with legs 6 and 8.

Answer: _____

4. A right triangle has a hypotenuse of 13 and one leg of 5. Find the other leg.

Answer: _____

5. Is a triangle with sides 5, 12, 13 a right triangle?

Answer: _____

Score: ___ / 5

Day 47 Area & Volume Formulas

Name: _____

1. What is the formula for the area of a triangle?

Answer: _____

2. What is the formula for the area of a circle?

Answer: _____

3. What is the formula for the circumference of a circle?

Answer: _____

4. What is the formula for the volume of a rectangular prism?

Answer: _____

5. What is the formula for the volume of a cylinder?

Answer: _____

Score: ___ / 5

Day 48 Applying Geometry Formulas

Name: _____

1. Find the area of a triangle with base 10 and height 6.

Answer: _____

2. Find the area of a circle with radius 5 (use $\pi \approx 3.14$).

Answer: _____

3. Find the volume of a box that is 4 by 3 by 2.

Answer: _____

4. Find the circumference of a circle with diameter 10 (use $\pi \approx 3.14$).

Answer: _____

5. Find the volume of a cylinder with radius 3 and height 5 (use $\pi \approx 3.14$).

Answer: _____

Score: ___ / 5

Day 49 Transformations

Name: _____

1. What happens to a point (x, y) under a reflection over the x -axis?

Answer: _____

2. What happens to a point (x, y) under a reflection over the y -axis?

Answer: _____

3. What happens to a point (x, y) under a 180° rotation about the origin?

Answer: _____

4. What is a translation?

Answer: _____

5. If $(3, 2)$ is translated 4 units left and 1 unit up, what is the new point?

Answer: _____

Score: ___ / 5

Day 50 Mixed Review — Week 10

Name: _____

1. A right triangle has legs 9 and 12. Find the hypotenuse.

Answer: _____

2. Find the area of a circle with radius 4 (use $\pi \approx 3.14$).

Answer: _____

3. Reflect $(5, -3)$ over the x-axis.

Answer: _____

4. Find the volume of a rectangular prism $5 \times 4 \times 3$.

Answer: _____

5. Is a triangle with sides 7, 24, 25 a right triangle?

Answer: _____

Score: ___ / 5

Day 51 Measures of Center & Spread

Name: _____

1. Find the mean of: 4, 8, 6, 10, 12

Answer: _____

2. Find the median of: 3, 7, 9, 12, 15

Answer: _____

3. Find the mode of: 2, 5, 5, 7, 9

Answer: _____

4. Find the range of: 10, 25, 18, 4, 30

Answer: _____

5. What measure of center is best when there are extreme outliers?

Answer: _____

Score: ____ / 5

Day 52 Scatter Plots & Lines of Best Fit

Name: _____

1. What does a scatter plot show?

Answer: _____

2. What does a positive correlation look like on a scatter plot?

Answer: _____

3. What does a negative correlation look like on a scatter plot?

Answer: _____

4. What is a line of best fit?

Answer: _____

5. If a line of best fit is $y = 2x + 3$, predict y when $x = 5$.

Answer: _____

Score: ___ / 5

Day 53 Probability

Name: _____

1. What is the probability of rolling an even number on a fair 6-sided die?

Answer: _____

2. A bag has 4 red and 6 blue marbles. What is $P(\text{blue})$?

Answer: _____

3. What is the probability of an impossible event?

Answer: _____

4. What is the probability of a certain event?

Answer: _____

5. Two coins are flipped. What is the probability of getting two heads?

Answer: _____

Score: ___ / 5

Day 54 Box Plots & Histograms

Name: _____

1. What does the box in a box plot represent?

Answer: _____

2. What is the median in a box plot?

Answer: _____

3. What does a histogram show?

Answer: _____

4. If a histogram bar for '0–10' has a height of 5, what does that mean?

Answer: _____

5. Find the IQR if $Q1 = 10$ and $Q3 = 22$.

Answer: _____

Score: ___ / 5

Day 55 Mixed Review — Week 11

Name: _____

1. Find the mean of: 12, 15, 18, 21, 24

Answer: _____

2. What does a correlation close to 0 indicate?

Answer: _____

3. A spinner has 4 equal sections numbered 1-4. P(landing on 3)?

Answer: _____

4. What is the median of: 2, 4, 6, 8, 10, 12?

Answer: _____

5. If a line of best fit is $y = -x + 10$, find y when $x = 4$.

Answer: _____

Score: ___ / 5

Day 56 Comprehensive Review I

Name: _____

1. Solve: $3x - 7 = 2x + 5$

Answer: _____

2. Simplify: $4(x - 2) + 3x$

Answer: _____

3. Find the slope between (1, 3) and (5, 11).

Answer: _____

4. Factor: $x^2 - 4x$

Answer: _____

5. Evaluate: $2^3 \times 2^2$

Answer: _____

Score: ___ / 5

Day 57 Comprehensive Review II

Name: _____

1. Solve: $2(x + 1) = x + 8$

Answer: _____

2. Solve the system: $y = x + 3$ and $2x + y = 12$

Answer: _____

3. What is 40% of 75?

Answer: _____

4. Find the hypotenuse of a right triangle with legs 8 and 15.

Answer: _____

5. Simplify: $(x^3)^2 \cdot x$

Answer: _____

Score: ___ / 5

Day 58 Comprehensive Review III

Name: _____

1. Solve the inequality: $3x - 2 \geq 10$

Answer: _____

2. Write the equation of a line through $(0, -2)$ with slope 5.

Answer: _____

3. Multiply: $(x - 3)(x + 5)$

Answer: _____

4. Solve: $|x - 2| = 6$

Answer: _____

5. Find the area of a triangle with base 12 and height 5.

Answer: _____

Score: ___ / 5

Day 59 Comprehensive Review IV

Name: _____

1. Solve: $5(x - 1) = 3x + 7$

Answer: _____

2. Write 6,300,000 in scientific notation.

Answer: _____

3. Find the mean, median, and mode of: 3, 3, 5, 7, 12

Answer: _____

4. Are the lines $y = 2x + 1$ and $y = 2x - 5$ parallel, perpendicular, or neither?

Answer: _____

5. Simplify: $\sqrt{72}$

Answer: _____

Score: ___ / 5

Day 60 Day 60 — Algebra 1 Ready! 

Name: _____

1. Solve: $2(3x - 1) = 4x + 6$

Answer: _____

2. Solve the system: $x + y = 10$ and $x - y = 2$

Answer: _____

3. Factor completely: $x^2 - 6x + 8$

Answer: _____

4. Write the equation of a line through (2, 5) and (4, 9).

Answer: _____

5. A right triangle has legs of 9 and 12. What is the hypotenuse, and is it a Pythagorean triple?

Answer: _____

Score: ___ / 5



ANSWER KEY

LatePass.com Algebra 1 Readiness Packet — Rising 9th Grade

Check your answers after completing each day!

Day 1 Integer Operations

1 -3

2 -5

3 -24

4 4

5 -8

Day 2 Order of Operations (PEMDAS)

1 11

2 14

3 18

4 11

5 9

Day 3 Fractions & Decimals

1 $7/12$

2 $1/3$

3 $1/2$

4 2

5 $3/4$

Day 4 Ratios & Proportions

1 $2:3$

2 $x = 15$

3 6 cups flour

4 $\$6$

5 $x = 15$

Day 5 Percents

1 20

2 30

3 40%

4 $\$30$

5 25%

Day 6 Evaluating Expressions

1 17

2 3

3 16

4 6

5 -12

Day 7 Combining Like Terms

1 $8x$

2 $5y + 4$

3 $3a + 5b$

4 $x^2 + 4x$

5 $-2x + 13$

Day 8 The Distributive Property

1 $3x + 12$

2 $-2x + 10$

3 $8x + 12y$

4 $8x + 10$

5 $-x - 8$

Day 9 Translating Words to Expressions

1 $x + 5$

2 $2x - 3$

3 $(x + 7)/2$

4 x^2 (or $x \cdot x$)

5 $3x - 8$

Day 10 Exponent Rules — Intro

1 x^7

2 x^5

3 x^6

4 1

5 $1/4$

Day 11 One-Step Equations

1 $x = 5$

2 $x = 13$

3 $x = 7$

4 $x = 18$

5 $x = -8$

Day 12 Two-Step Equations

1 $x = 4$

2 $x = 7$

3 $x = 12$

4 $x = -4$

5 $x = -3$

Day 13 Multi-Step Equations

1 $x = 4$

2 $x = 3$

3 $x = 7$

4 $x = 6$

5 $x = 3$

Day 14 Equations with Fractions & Decimals

1 $x = 12$

2 $x = 8$

3 $x = 10$

4 $x = 11$

5 $x = 12$

Day 15 Word Problems — Equations

1 12

2 5

3 5 cm

4 \$10

5 6 miles

Day 16 One-Step Inequalities

1 $x > 5$

2 $x \leq 10$

3 $x \geq 4$

4 $x > -4$ (flip inequality when dividing by negative)

5 $x < 6$

Day 17 Multi-Step Inequalities

1 $x < 4$

2 $x \geq 3$

3 $x \geq -2$

4 $x < 2$

5 $x \geq 5$

Day 18 Compound Inequalities

1 $-5 < x < 3$

2 $1 \leq x \leq 4$

3 Closed circle at 3, arrow pointing right

4 $-2 \leq x \leq 6$

5 $-2 < x \leq 3$

Day 19 Absolute Value Equations

- 1 $x = 7$ or $x = -7$
- 2 $x = 8$ or $x = -2$
- 3 $x = 5$ or $x = -5$
- 4 $x = -4$
- 5 9

Day 21 The Coordinate Plane

- 1 (0, 0)
- 2 Quadrant II
- 3 Quadrant IV
- 4 The y-axis (it's 2 to the right, 3 up)
- 5 0

Day 23 Graphing Linear Equations

- 1 (0, -4)
- 2 (3, 0)
- 3 Yes ($2(2)+1 = 5$)
- 4 $y = 2, 3, 4$
- 5 A straight line

Day 20 Mixed Review — Weeks 1–4

- 1 4
- 2 $x = 6$
- 3 $6x + 1$
- 4 $x \geq 2$
- 5 45

Day 22 Relations & Functions

- 1 A relation where each input has exactly one output
- 2 Yes — each x has one y
- 3 No — $x = 1$ has two different y -values
- 4 The set of all possible input (x) values
- 5 The set of all possible output (y) values

Day 24 Slope

- 1 $m = (y_2 - y_1)/(x_2 - x_1)$
- 2 $m = 3$
- 3 $m = 0$ (horizontal line)
- 4 Undefined (vertical line)
- 5 $m = -2$

Day 25 Slope-Intercept Form

- 1 The slope
- 2 The y-intercept
- 3 $y = 2x - 3$
- 4 Slope = -5 , y-intercept = 7
- 5 $y = -2x + 8$

Day 27 Parallel & Perpendicular Lines

- 1 They are equal
- 2 They are negative reciprocals (product = -1)
- 3 $m = 4$
- 4 $m = -3/2$
- 5 Parallel (same slope)

Day 29 Linear Function Word Problems

- 1 $c(m) = 1.5m + 3$
- 2 \$18
- 3 $c(m) = 15m + 20$
- 4 $h(w) = 2w + 5$
- 5 17 cm

Day 26 Writing Equations from Graphs/Points

- 1 $y = 3x + 4$
- 2 $y = 2x + 3$
- 3 $y = 2x + 3$
- 4 $y = -2$
- 5 $x = 5$

Day 28 Standard Form & Point-Slope Form

- 1 $Ax + By = C$
- 2 $y - y_1 = m(x - x_1)$
- 3 $y - 2 = 4(x - 3)$
- 4 $y = 2x - 5$
- 5 $y = -(3/2)x + 6$

Day 30 Mixed Review — Weeks 5–6

- 1 $m = 2$
- 2 $y = -x + 5$
- 3 Yes
- 4 $(0, -2)$
- 5 Yes (slopes are negative reciprocals)

Day 31 Systems — Graphing

- 1 The point where the lines intersect
- 2 No solution
- 3 Infinitely many solutions
- 4 Yes — it satisfies both equations
- 5 One solution

Day 33 Systems — Elimination

- 1 $x = 5, y = 3$
- 2 $x = 4, y = 3$
- 3 $x = 4, y = 2$
- 4 $x = 3/2, y = 4$
- 5 $x = 4, y = 1$

Day 35 Mixed Review — Week 7

- 1 $x = 6, y = 3$
- 2 $x = 2, y = 8$
- 3 No solution (parallel lines)
- 4 $x = 2, y = 3$
- 5 10 and 20

Day 32 Systems — Substitution

- 1 $x = 4, y = 6$
- 2 $x = 3, y = 6$
- 3 $x = 5, y = 2$
- 4 $x = 3, y = 8$
- 5 $x = 3, y = 4$

Day 34 Systems — Word Problems

- 1 12 and 8
- 2 5 adult, 3 child
- 3 10 dimes, 15 nickels
- 4 9 and 6
- 5 Boat speed = 17.5, current = 2.5

Day 36 Laws of Exponents

- 1 x^7
- 2 x^{12}
- 3 $8x^3$
- 4 x^2
- 5 x^4y^6

Day 37 Negative & Zero Exponents

- 1 1
- 2 $1/4$
- 3 $1/x^3$
- 4 4
- 5 $x^{-2} = 1/x^2$

Day 38 Scientific Notation

- 1 4.5×10^6
- 2 3.2×10^{-4}
- 3 3,200
- 4 0.07
- 5 6×10^5

Day 39 Square Roots & Cube Roots

- 1 8
- 2 11
- 3 3
- 4 Between 7 and 8
- 5 $4\sqrt{3}$

Day 40 Mixed Review — Weeks 7–8

- 1 $6x^5$
- 2 5.6×10^{-5}
- 3 14
- 4 $x = 7, y = 5$
- 5 x^2

Day 41 Identifying Polynomials

- 1 An expression with one term (e.g., $3x^2$)
- 2 An expression with two terms (e.g., $x + 5$)
- 3 3
- 4 5 (sum of the exponents)
- 5 No — polynomials cannot have negative exponents

Day 42 Adding & Subtracting Polynomials

- 1 $4x^2 + x + 3$
- 2 $3x^2 - 4x$
- 3 $6x - 4$
- 4 $7x + 5$
- 5 $x^2 + 4x - 7$

Day 43 Multiplying Polynomials

1 $6x^2 + 15x$

2 $x^2 + 5x + 6$

3 $x^2 - 16$

4 $x^2 + 2x + 1$

5 $2x^2 + 5x - 3$

Day 45 Mixed Review — Week 9

1 $3x^2 + 2x + 4$

2 $x^2 - 3x - 10$

3 $(x + 3)(x - 3)$

4 5

5 $2x(x + 3)$

Day 47 Area & Volume Formulas

1 $A = (1/2)bh$

2 $A = \pi r^2$

3 $C = 2\pi r$ (or πd)

4 $V = lwh$

5 $V = \pi r^2h$

Day 44 Factoring — GCF & Simple Trinomials

1 $4x(x + 2)$

2 $(x + 3)(x + 4)$

3 $(x - 2)(x - 3)$

4 $(x + 5)(x - 5)$

5 $x(x + 4)$

Day 46 Pythagorean Theorem

1 $a^2 + b^2 = c^2$ (for a right triangle with legs a, b and hypotenuse c)

2 5

3 10

4 12

5 Yes ($5^2 + 12^2 = 13^2$)

Day 48 Applying Geometry Formulas

1 30 sq units

2 ≈ 78.5 sq units

3 24 cubic units

4 ≈ 31.4 units

5 ≈ 141.3 cubic units

Day 49 Transformations

- 1 It becomes $(x, -y)$
- 2 It becomes $(-x, y)$
- 3 It becomes $(-x, -y)$
- 4 A slide that moves every point the same distance in the same direction
- 5 $(-1, 3)$

Day 51 Measures of Center & Spread

- 1 8
- 2 9
- 3 5
- 4 26
- 5 The median

Day 53 Probability

- 1 $1/2$ ($3/6$)
- 2 $6/10$ (or $3/5$)
- 3 0
- 4 1
- 5 $1/4$

Day 50 Mixed Review — Week 10

- 1 15
- 2 ≈ 50.24 sq units
- 3 $(5, 3)$
- 4 60 cubic units
- 5 Yes ($7^2 + 24^2 = 25^2$)

Day 52 Scatter Plots & Lines of Best Fit

- 1 The relationship between two sets of data
- 2 Points trend upward from left to right
- 3 Points trend downward from left to right
- 4 A line that best represents the trend in scattered data points
- 5 $y = 13$

Day 54 Box Plots & Histograms

- 1 The middle 50% of the data (IQR — interquartile range)
- 2 The line inside the box
- 3 The frequency of data within intervals (bins)
- 4 5 data values fall between 0 and 10
- 5 12

Day 55 Mixed Review — Week 11

- 1 18
- 2 Little to no relationship between the variables
- 3 $\frac{1}{4}$
- 4 7 (average of 6 and 8)
- 5 $y = 6$

Day 56 Comprehensive Review I

- 1 $x = 12$
- 2 $7x - 8$
- 3 $m = 2$
- 4 $x(x - 4)$
- 5 32

Day 57 Comprehensive Review II

- 1 $x = 6$
- 2 $x = 3, y = 6$
- 3 30
- 4 17
- 5 x^7

Day 58 Comprehensive Review III

- 1 $x \geq 4$
- 2 $y = 5x - 2$
- 3 $x^2 + 2x - 15$
- 4 $x = 8$ or $x = -4$
- 5 30 sq units

Day 59 Comprehensive Review IV

- 1 $x = 6$
- 2 6.3×10^6
- 3 Mean = 6, Median = 5, Mode = 3
- 4 Parallel
- 5 $6\sqrt{2}$

Day 60 Day 60 — Algebra 1 Ready! 🎉

- 1 $x = 4$
- 2 $x = 6, y = 4$
- 3 $(x - 2)(x - 4)$
- 4 $y = 2x + 1$
- 5 15; Yes (9-12-15 is a multiple of 3-4-5)