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Algebra 2 Readiness Packet

Rising 11th 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 11th graders for Algebra 2 by reviewing the essential Algebra 1 skills and concepts needed for success. 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	Algebra Foundations Review — Order of Operations, Properties, Expressions & the Distributive Property
Week 2	Solving Linear Equations — One-Step Through Multi-Step, Fractions & Literal Equations
Week 3	Inequalities & Absolute Value Equations/Inequalities
Week 4	Linear Functions & Graphing — Coordinate Plane, Slope & Slope-Intercept Form
Week 5	Writing Linear Equations — Point-Slope, Standard Form, Parallel & Perpendicular Lines
Week 6	Systems of Equations — Graphing, Substitution, Elimination & Applications
Week 7	Exponents & Exponential Functions — Laws of Exponents, Scientific Notation & Growth/Decay
Week 8	Polynomials — Classifying, Adding, Subtracting & Multiplying
Week 9	Factoring — GCF, Trinomials & Special Patterns
Week 10	Quadratic Functions & Equations — Factoring, Square Roots & the Quadratic Formula
Week 11	Radicals & Rational Expressions
Week 12	Comprehensive Algebra 2 Readiness Review

Day 1 – Order of Operations & Properties of Real Numbers

Name: _____

1. Evaluate: $6 + 2(5 - 3)^2$

Answer: _____

2. Evaluate: $-3^2 + 4$

Answer: _____

3. Name the property shown: $5 + (x + 3) = (5 + x) + 3$

Answer: _____

4. Evaluate: $|-8| - |3|$

Answer: _____

5. Simplify: $-5(2 - 7)$

Answer: _____

Score: ____ / 5

Day 2 – Evaluating Expressions & Combining Like Terms

Name: _____

1. Evaluate $3x^2 - 2x$ when $x = 4$.

Answer: _____

2. Simplify: $5x + 3y - 2x + y$

Answer: _____

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

Answer: _____

4. Evaluate $-2x + 7$ when $x = -3$.

Answer: _____

5. Simplify: $7a - 3b - a + 5b$

Answer: _____

Score: ____ / 5

Day 3 – The Distributive Property & Simplifying Expressions

Name: _____

1. Expand: $3(x + 5)$

Answer: _____

2. Expand: $-2(3x - 4)$

Answer: _____

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

Answer: _____

4. Simplify: $4(2x - 1) - (x + 5)$

Answer: _____

5. Expand: $-(x - 6)$

Answer: _____

Score: ____ / 5

Day 4 – Translating Expressions & Algebraic Vocabulary

Name: _____

1. Write an expression for “seven less than twice a number x .”

Answer: _____

2. Write an expression for “three times the sum of a number and 5.”

Answer: _____

3. Identify the coefficient, variable, and constant in $4x + 9$.

Answer: _____

4. Write an expression for “the quotient of a number and 4, increased by 6.”

Answer: _____

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

Answer: _____

Score: ____ / 5

Day 5 – Mixed Review – Week 1

Name: _____

1. Evaluate: $4 + 3(6 - 4)^2$

Answer: _____

2. Simplify: $6x - 2(x + 4)$

Answer: _____

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

Answer: _____

4. Name the property shown: $4 \cdot 1 = 4$

Answer: _____

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

Answer: _____

Score: ____ / 5

Day 6 – One-Step & Two-Step Equations

Name: _____

1. Solve: $x - 9 = 14$

Answer: _____

2. Solve: $-3x = 21$

Answer: _____

3. Solve: $x/5 + 2 = 7$

Answer: _____

4. Solve: $4x - 9 = 11$

Answer: _____

5. Solve: $-2x + 6 = -4$

Answer: _____

Score: ____ / 5

Day 7 – Multi-Step Equations

Name: _____

1. Solve: $3(x + 2) = 21$

Answer: _____

2. Solve: $5x - 3 = 2x + 12$

Answer: _____

3. Solve: $2(x - 4) + 3x = 22$

Answer: _____

4. Solve: $7 - 2x = 3x + 17$

Answer: _____

5. Solve: $4(x + 1) - 3 = 2x + 9$

Answer: _____

Score: ____ / 5

Day 8 – Equations with Fractions & Decimals

Name: _____

1. Solve: $x/3 + 4 = 9$

Answer: _____

2. Solve: $(2/3)x = 8$

Answer: _____

3. Solve: $0.5x - 3 = 7$

Answer: _____

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

Answer: _____

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

Answer: _____

Score: ____ / 5

Day 9 – Literal Equations & Formulas

Name: _____

1. Solve for w : $P = 2l + 2w$

Answer: _____

2. Solve for h : $V = lwh$

Answer: _____

3. Solve for x : $ax + b = c$

Answer: _____

4. Solve for F : $C = (5/9)(F - 32)$

Answer: _____

5. Solve for b : $A = (1/2)bh$

Answer: _____

Score: ____ / 5

Day 10 — Mixed Review — Week 2

Name: _____

1. Solve: $5x + 7 = -8$

Answer: _____

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

Answer: _____

3. Solve: $x/4 - 1 = 5$

Answer: _____

4. Solve for r: $C = 2\pi r$

Answer: _____

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

Answer: _____

Score: ____ / 5

Day 11 — One-Step & Multi-Step Inequalities

Name: _____

1. Solve: $x + 5 > 12$

Answer: _____

2. Solve: $-3x \leq 9$

Answer: _____

3. Solve: $2x - 4 < 10$

Answer: _____

4. Solve: $-x/2 \geq 4$

Answer: _____

5. Solve: $5 - 2x > -3$

Answer: _____

Score: ____ / 5

Day 12 – Compound Inequalities

Name: _____

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

Answer: _____

2. Solve: $3 \leq 2x - 1 \leq 9$

Answer: _____

3. Write a compound inequality for “x is between -4 and 6 , not including either endpoint.”

Answer: _____

4. Solve: $x + 3 < -1$ or $x - 2 > 4$

Answer: _____

5. Solve: $-4 \leq -2x < 8$

Answer: _____

Score: ____ / 5

Day 13 – Absolute Value Equations

Name: _____

1. Solve: $|x| = 9$

Answer: _____

2. Solve: $|x - 4| = 7$

Answer: _____

3. Solve: $|2x + 1| = 5$

Answer: _____

4. Solve: $|x + 3| = 0$

Answer: _____

5. Solve: $|3x - 6| = 12$

Answer: _____

Score: ____ / 5

Day 14 – Absolute Value Inequalities

Name: _____

1. Solve: $|x| < 5$

Answer: _____

2. Solve: $|x| \geq 3$

Answer: _____

3. Solve: $|x - 2| \leq 4$

Answer: _____

4. Solve: $|x + 1| > 3$

Answer: _____

5. Solve: $|2x| < 10$

Answer: _____

Score: ____ / 5

Day 15 — Mixed Review — Week 3

Name: _____

1. Solve: $3x - 2 \geq 7$

Answer: _____

2. Solve: $|x + 5| = 2$

Answer: _____

3. Solve: $-5 < x - 1 \leq 3$

Answer: _____

4. Solve: $|x - 6| > 1$

Answer: _____

5. Solve: $4 - x < 9$

Answer: _____

Score: ____ / 5

Day 16 – The Coordinate Plane & Relations

Name: _____

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

Answer: _____

2. What is the x-intercept of a line?

Answer: _____

3. Is the relation $\{(1, 2), (2, 2), (3, 2)\}$ a function?

Answer: _____

4. What is the domain of $\{(1, 3), (2, 5), (3, 7)\}$?

Answer: _____

5. Which axis does the point $(0, -4)$ lie on?

Answer: _____

Score: ____ / 5

Day 17 — Slope

Name: _____

1. Find the slope between (2, 3) and (6, 11).

Answer: _____

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

Answer: _____

3. Find the slope between (5, 2) and (5, -3).

Answer: _____

4. Find the slope between (0, 0) and (-4, 8).

Answer: _____

5. A line has slope $-3/4$. If x increases by 4, how much does y change?

Answer: _____

Score: ____ / 5

Day 18 — Slope-Intercept Form & Graphing Lines

Name: _____

1. Identify the slope and y-intercept of $y = -2x + 5$.

Answer: _____

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

Answer: _____

3. Rewrite $2x + y = 7$ in slope-intercept form.

Answer: _____

4. Find the y-intercept of $3x - 2y = 12$.

Answer: _____

5. Find two points on the line $y = x - 1$.

Answer: _____

Score: ____ / 5

Day 19 — x- and y-Intercepts & Special Lines

Name: _____

1. Find the x-intercept of $y = 2x - 8$.

Answer: _____

2. Find the y-intercept of $y = 2x - 8$.

Answer: _____

3. Write the equation of a horizontal line through $(3, 5)$.

Answer: _____

4. Write the equation of a vertical line through $(-2, 7)$.

Answer: _____

5. Find the x- and y-intercepts of $3x + 4y = 12$.

Answer: _____

Score: ____ / 5

Day 20 — Mixed Review — Weeks 1-4

Name: _____

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

Answer: _____

2. Solve: $|x - 3| = 8$

Answer: _____

3. Solve: $2x + 5 \leq -3$

Answer: _____

4. Find the slope between $(1, -2)$ and $(4, 7)$.

Answer: _____

5. Identify the slope and y-intercept of $y = (2/3)x - 1$.

Answer: _____

Score: ____ / 5

Day 21 — Writing Equations from Slope and a Point

Name: _____

1. Write the point-slope equation for a line through (2, 5) with slope 3.

Answer: _____

2. Write the equation (in slope-intercept form) of a line through (0, 4) with slope -2 .

Answer: _____

3. Write the equation of a line through (1, 3) with slope 4, in slope-intercept form.

Answer: _____

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

Answer: _____

5. Write the equation of a line through $(-2, 1)$ with slope $-1/2$, in slope-intercept form.

Answer: _____

Score: ____ / 5

Day 22 — Writing Equations from Two Points

Name: _____

1. Find the slope between $(1, 2)$ and $(3, 8)$, then write the equation of the line.

Answer: _____

2. Write the equation of the line through $(0, -3)$ and $(2, 1)$.

Answer: _____

3. Write the equation of the line through $(-1, 4)$ and $(2, -2)$.

Answer: _____

4. Write the equation of the line through $(4, 5)$ and $(4, -1)$.

Answer: _____

5. Write the equation of the line through $(2, 3)$ and $(6, 3)$.

Answer: _____

Score: ____ / 5

Day 23 — Standard Form & Converting Between Forms

Name: _____

1. Convert $y = 2x - 5$ to standard form ($Ax + By = C$).

Answer: _____

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

Answer: _____

3. Find the slope of the line $4x - 2y = 8$.

Answer: _____

4. Write $5x - y = 10$ in slope-intercept form.

Answer: _____

5. Convert $y = -(1/3)x + 2$ to standard form with integer coefficients.

Answer: _____

Score: ____ / 5

Day 24 — Parallel & Perpendicular Lines

Name: _____

1. What is the slope of a line parallel to $y = 4x + 1$?

Answer: _____

2. What is the slope of a line perpendicular to $y = (2/5)x - 3$?

Answer: _____

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

Answer: _____

4. Are $y = (1/2)x + 1$ and $y = -2x + 4$ parallel, perpendicular, or neither?

Answer: _____

5. Write the equation of a line parallel to $y = -x + 5$ passing through $(2, 3)$.

Answer: _____

Score: ____ / 5

Day 25 — Mixed Review — Week 5

Name: _____

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

Answer: _____

2. Find the slope of the line through $(0, 5)$ and $(4, -3)$.

Answer: _____

3. Convert $2x - 3y = 6$ to slope-intercept form.

Answer: _____

4. What is the slope of a line perpendicular to $y = -4x + 3$?

Answer: _____

5. Write the equation of the horizontal line through $(5, -2)$.

Answer: _____

Score: ____ / 5

Day 26 – Solving Systems by Graphing

Name: _____

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

Answer: _____

2. If two lines in a system are parallel, how many solutions does the system have?

Answer: _____

3. If two equations represent the same line, how many solutions does the system have?

Answer: _____

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

Answer: _____

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

Answer: _____

Score: ___ / 5

Day 27 — Solving Systems by Substitution

Name: _____

1. Solve by substitution: $y = x + 3$ and $x + y = 11$

Answer: _____

2. Solve by substitution: $y = 2x - 1$ and $3x + y = 14$

Answer: _____

3. Solve by substitution: $x = y + 2$ and $2x + 3y = 19$

Answer: _____

4. Solve by substitution: $y = -x + 6$ and $y = 2x$

Answer: _____

5. Solve by substitution: $x + y = 10$ and $y = 4x$

Answer: _____

Score: ____ / 5

Day 28 — Solving Systems by Elimination

Name: _____

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

Answer: _____

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

Answer: _____

3. Solve by elimination: $3x + 2y = 12$ and $x - 2y = 4$

Answer: _____

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

Answer: _____

5. Solve by elimination: $5x + 2y = 19$ and $3x - 2y = 5$

Answer: _____

Score: ____ / 5

Day 29 — Systems Word Problems

Name: _____

1. The sum of two numbers is 24 and their difference is 8. Find the numbers.

Answer: _____

2. Tickets cost \$4 for students and \$7 for adults. 50 tickets were sold for \$260 total. How many of each?

Answer: _____

3. Two numbers have a sum of 20. One number is 4 more than the other. Find the numbers.

Answer: _____

4. A jar has nickels and quarters worth \$3.00, with 20 coins total. How many of each?

Answer: _____

5. The perimeter of a rectangle is 28, and the length is 4 more than the width. Find the dimensions.

Answer: _____

Score: ____ / 5

Day 30 — Mixed Review — Weeks 5-6

Name: _____

1. Write the equation of the line through (1, 2) and (3, 6).

Answer: _____

2. Solve the system: $x + y = 7$ and $x - y = 1$

Answer: _____

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

Answer: _____

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

Answer: _____

5. How many solutions does a system have if the two equations represent identical lines?

Answer: _____

Score: ____ / 5

Day 31 — Laws of Exponents

Name: _____

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

Answer: _____

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

Answer: _____

3. Simplify: x^9 / x^4

Answer: _____

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

Answer: _____

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

Answer: _____

Score: ____ / 5

Day 32 — Negative & Zero Exponents

Name: _____

1. Evaluate: 7^0

Answer: _____

2. Evaluate: 2^{-3}

Answer: _____

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

Answer: _____

4. Simplify: $(x^{-3})^{-1}$

Answer: _____

5. Evaluate: $(1/3)^{-2}$

Answer: _____

Score: ____ / 5

Day 33 — Scientific Notation

Name: _____

1. Write 56,000 in scientific notation.

Answer: _____

2. Write 0.0072 in scientific notation.

Answer: _____

3. Write 3.5×10^5 in standard form.

Answer: _____

4. Write 9×10^{-3} in standard form.

Answer: _____

5. Multiply: $(2 \times 10^3)(4 \times 10^5)$

Answer: _____

Score: ____ / 5

Day 34 — Exponential Functions & Growth/Decay

Name: _____

1. Evaluate $f(x) = 3 \cdot 2^x$ at $x = 4$.

Answer: _____

2. Is $f(x) = 5(0.5)^x$ a growth or decay function?

Answer: _____

3. A population grows according to $P(t) = 200(1.1)^t$. Find $P(0)$.

Answer: _____

4. Evaluate $f(x) = 2^x$ at $x = 0$.

Answer: _____

5. Is $f(x) = 4(1.2)^x$ a growth or decay function?

Answer: _____

Score: ____ / 5

Day 35 — Mixed Review — Week 7

Name: _____

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

Answer: _____

2. Evaluate: 4^{-2}

Answer: _____

3. Write 0.00045 in scientific notation.

Answer: _____

4. Simplify: x^6 / x^{-2}

Answer: _____

5. A bacteria population doubles every hour, starting at 100. Write an exponential function for the population after t hours.

Answer: _____

Score: ____ / 5

Day 36 – Identifying & Classifying Polynomials

Name: _____

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

Answer: _____

2. Classify $5x^2 + 3x$ by its number of terms.

Answer: _____

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

Answer: _____

4. Arrange in standard form: $3 + x^2 - 2x$

Answer: _____

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

Answer: _____

Score: ____ / 5

Day 37 — Adding & Subtracting Polynomials

Name: _____

1. Add: $(2x^2 + 3x - 5) + (x^2 - x + 4)$

Answer: _____

2. Subtract: $(5x^2 - 2x + 1) - (3x^2 + x - 4)$

Answer: _____

3. Add: $(4x^3 - x) + (-x^3 + 2x - 6)$

Answer: _____

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

Answer: _____

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

Answer: _____

Score: ____ / 5

Day 38 — Multiplying Polynomials

Name: _____

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

Answer: _____

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

Answer: _____

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

Answer: _____

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

Answer: _____

5. Multiply: $(x - 2)(x^2 + 2x + 4)$

Answer: _____

Score: ____ / 5

Day 39 — Special Products

Name: _____

1. Multiply: $(x - 7)(x + 7)$

Answer: _____

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

Answer: _____

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

Answer: _____

4. Multiply: $(x - 6)^2$

Answer: _____

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

Answer: _____

Score: ____ / 5

Day 40 — Mixed Review — Weeks 7-8

Name: _____

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

Answer: _____

2. Add: $(3x^2 + 2x) + (x^2 - 5x + 6)$

Answer: _____

3. Multiply: $(x - 3)(x + 8)$

Answer: _____

4. Write 0.00021 in scientific notation.

Answer: _____

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

Answer: _____

Score: ____ / 5

Day 41 — Factoring — GCF & by Grouping

Name: _____

1. Factor: $8x^2 + 12x$

Answer: _____

2. Factor: $6x^3 - 9x^2$

Answer: _____

3. Factor by grouping: $x^3 + 3x^2 + 2x + 6$

Answer: _____

4. Factor by grouping: $4xy - 8x + 3y - 6$

Answer: _____

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

Answer: _____

Score: ____ / 5

Day 42 — Factoring Trinomials (a = 1)

Name: _____

1. Factor: $x^2 + 9x + 20$

Answer: _____

2. Factor: $x^2 - 2x - 15$

Answer: _____

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

Answer: _____

4. Factor: $x^2 + x - 6$

Answer: _____

5. Factor: $x^2 - 10x + 25$

Answer: _____

Score: ____ / 5

Day 43 — Factoring Trinomials ($a \neq 1$)

Name: _____

1. Factor: $2x^2 + 7x + 3$

Answer: _____

2. Factor: $3x^2 - 10x + 8$

Answer: _____

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

Answer: _____

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

Answer: _____

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

Answer: _____

Score: ____ / 5

Day 44 — Special Factoring Patterns

Name: _____

1. Factor: $x^2 - 36$

Answer: _____

2. Factor: $9x^2 - 16$

Answer: _____

3. Factor: $x^2 + 10x + 25$

Answer: _____

4. Factor: $4x^2 - 12x + 9$

Answer: _____

5. Factor: $25x^2 - 4$

Answer: _____

Score: ____ / 5

Day 45 — Mixed Review — Week 9

Name: _____

1. Factor: $x^2 - 4x - 12$

Answer: _____

2. Factor: $3x^2 + 12x$

Answer: _____

3. Factor: $x^2 - 81$

Answer: _____

4. Factor: $2x^2 + 11x + 5$

Answer: _____

5. Factor: $x^2 - 14x + 49$

Answer: _____

Score: ____ / 5

Day 46 – Solving Quadratics by Factoring

Name: _____

1. Solve: $x^2 - 5x + 6 = 0$

Answer: _____

2. Solve: $x^2 - 16 = 0$

Answer: _____

3. Solve: $x^2 + 3x - 10 = 0$

Answer: _____

4. Solve: $2x^2 - 8x = 0$

Answer: _____

5. Solve: $x^2 - 8x + 16 = 0$

Answer: _____

Score: ____ / 5

Day 47 — Solving Quadratics Using Square Roots

Name: _____

1. Solve: $x^2 = 49$

Answer: _____

2. Solve: $x^2 - 9 = 0$

Answer: _____

3. Solve: $2x^2 = 50$

Answer: _____

4. Solve: $(x - 3)^2 = 16$

Answer: _____

5. Solve: $x^2 + 4 = 4$

Answer: _____

Score: ____ / 5

Day 48 – The Quadratic Formula

Name: _____

1. State the quadratic formula.

Answer: _____

2. Use the quadratic formula to solve: $x^2 + 2x - 8 = 0$

Answer: _____

3. Use the quadratic formula to solve: $x^2 - 4x + 1 = 0$

Answer: _____

4. Find the discriminant of $x^2 + 6x + 9 = 0$.

Answer: _____

5. How many real solutions does $x^2 + x + 5 = 0$ have, based on the discriminant?

Answer: _____

Score: ____ / 5

Day 49 – Graphing Quadratic Functions

Name: _____

1. Find the vertex of $y = (x - 3)^2 + 2$.

Answer: _____

2. Find the axis of symmetry of $y = x^2 - 6x + 5$.

Answer: _____

3. Does $y = -3(x + 1)^2 + 4$ open up or down?

Answer: _____

4. Find the y-intercept of $y = x^2 + 4x - 5$.

Answer: _____

5. Find the vertex of $y = x^2 + 4x$ by completing the square.

Answer: _____

Score: ____ / 5

Day 50 — Mixed Review — Week 10

Name: _____

1. Solve: $x^2 - 2x - 24 = 0$

Answer: _____

2. Solve: $x^2 = 100$

Answer: _____

3. Use the quadratic formula to solve: $x^2 - 5x + 2 = 0$

Answer: _____

4. Find the vertex of $y = (x + 2)^2 - 7$.

Answer: _____

5. Find the discriminant of $2x^2 + 3x - 1 = 0$.

Answer: _____

Score: ____ / 5

Day 51 — Simplifying Radicals

Name: _____

1. Simplify: $\sqrt{32}$

Answer: _____

2. Simplify: $\sqrt{(45x^2)}$ (assume $x \geq 0$)

Answer: _____

3. Simplify: $\sqrt{16} + \sqrt{9}$

Answer: _____

4. Simplify: $\sqrt{2} \cdot \sqrt{8}$

Answer: _____

5. Simplify: $\sqrt{72}$

Answer: _____

Score: ____ / 5

Day 52 — Operations with Radicals

Name: _____

1. Simplify: $2\sqrt{5} + 3\sqrt{5}$

Answer: _____

2. Simplify: $4\sqrt{3} - \sqrt{3}$

Answer: _____

3. Simplify: $\sqrt{3} \cdot \sqrt{12}$

Answer: _____

4. Rationalize the denominator: $1/\sqrt{2}$

Answer: _____

5. Simplify: $\sqrt{5}(\sqrt{5} + 2)$

Answer: _____

Score: ____ / 5

Day 53 — Solving Radical Equations

Name: _____

1. Solve: $\sqrt{x} = 7$

Answer: _____

2. Solve: $\sqrt{x + 3} = 4$

Answer: _____

3. Solve: $\sqrt{2x - 1} = 3$

Answer: _____

4. Solve: $\sqrt{x} + 2 = 6$

Answer: _____

5. Solve: $\sqrt{x - 1} = 0$

Answer: _____

Score: ____ / 5

Day 54 — Simplifying Rational Expressions

Name: _____

1. Simplify: $6x^2 / 2x^5$

Answer: _____

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

Answer: _____

3. Simplify: $(x^2 - 5x)/(x^2 - 25)$

Answer: _____

4. Simplify: $(3x + 9)/(x + 3)$

Answer: _____

5. Simplify: $(x^2 - 1)/(x - 1)$

Answer: _____

Score: ____ / 5

Day 55 — Mixed Review — Week 11

Name: _____

1. Simplify: $\sqrt{50}$

Answer: _____

2. Simplify: $3\sqrt{2} + \sqrt{8}$

Answer: _____

3. Solve: $\sqrt{x + 5} = 3$

Answer: _____

4. Simplify: $(x^2 - 9)/(x - 3)$

Answer: _____

5. Rationalize the denominator: $3/\sqrt{3}$

Answer: _____

Score: ____ / 5

Day 56 — Comprehensive Review I

Name: _____

1. Solve: $3x - 4 = 11$

Answer: _____

2. Factor: $x^2 - x - 6$

Answer: _____

3. Find the slope between (2, 1) and (5, 10).

Answer: _____

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

Answer: _____

5. Solve: $|x + 2| = 6$

Answer: _____

Score: ____ / 5

Day 57 — Comprehensive Review II

Name: _____

1. Solve the system: $y = x + 1$ and $2x + y = 10$

Answer: _____

2. Simplify: $\sqrt{48}$

Answer: _____

3. Solve: $x^2 - 9x + 18 = 0$

Answer: _____

4. Write the equation of a line through $(0, -2)$ with slope 4.

Answer: _____

5. Simplify: $(x^2 - 16)/(x + 4)$

Answer: _____

Score: ____ / 5

Day 58 — Comprehensive Review III

Name: _____

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

Answer: _____

2. Factor: $4x^2 - 25$

Answer: _____

3. Solve the inequality: $3x + 2 > -7$

Answer: _____

4. Use the quadratic formula to solve: $x^2 - 2x - 1 = 0$

Answer: _____

5. Evaluate: 3^{-2}

Answer: _____

Score: ____ / 5

Day 59 — Comprehensive Review IV

Name: _____

1. Multiply: $(x - 4)(x + 6)$

Answer: _____

2. Solve: $\sqrt{3x + 1} = 4$

Answer: _____

3. Are $y = 3x - 1$ and $y = (1/3)x + 2$ parallel, perpendicular, or neither?

Answer: _____

4. Find the vertex of $y = (x - 1)^2 - 5$.

Answer: _____

5. Write 6.3×10^{-4} in standard form.

Answer: _____

Score: ____ / 5

Day 60 — Algebra 2 Ready! (Final Comprehensive Review)

Name: _____

1. Solve: $x^2 + 5x - 14 = 0$

Answer: _____

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

Answer: _____

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

Answer: _____

4. Solve: $|2x - 3| = 7$

Answer: _____

5. Find the equation of the line through $(2, 4)$ and $(4, 8)$, and state its slope.

Answer: _____

Score: ____ / 5

ANSWER KEY

LatePass.com Algebra 2 Readiness Packet — Rising 12th Grade

Check your answers after completing each day!

Day 1 — Order of Operations & Properties of Real Numbers

1. 14
2. -5
3. Associative Property of Addition
4. 5
5. 25

Day 2 — Evaluating Expressions & Combining Like Terms

1. 40
2. $3x + 4y$
3. $8x - 7$
4. 13
5. $6a + 2b$

Day 3 — The Distributive Property & Simplifying Expressions

1. $3x + 15$
2. $-6x + 8$
3. $5x + 3$
4. $7x - 9$
5. $-x + 6$

Day 4 — Translating Expressions & Algebraic Vocabulary

1. $2x - 7$
2. $3(x + 5)$
3. Coefficient = 4, variable = x , constant = 9
4. $x/4 + 6$
5. 3

Day 5 — Mixed Review — Week 1

1. 16
2. $4x - 8$
3. 6
4. Identity Property of Multiplication
5. $2x + 6$

Day 6 — One-Step & Two-Step Equations

1. $x = 23$
2. $x = -7$
3. $x = 25$
4. $x = 5$
5. $x = 5$

Day 7 — Multi-Step Equations

1. $x = 5$
2. $x = 5$
3. $x = 6$
4. $x = -2$
5. $x = 4$

Day 8 — Equations with Fractions & Decimals

1. $x = 15$
2. $x = 12$
3. $x = 20$
4. $x = 11$
5. $x = 11$

Day 9 — Literal Equations & Formulas

1. $w = (P - 2l)/2$
2. $h = V/(lw)$
3. $x = (c - b)/a$
4. $F = (9/5)C + 32$
5. $b = 2A/h$

Day 10 — Mixed Review — Week 2

1. $x = -3$
2. $x = -4$
3. $x = 24$
4. $r = C/(2\pi)$
5. $x = 11$

Day 11 — One-Step & Multi-Step Inequalities

1. $x > 7$
2. $x \geq -3$
3. $x < 7$
4. $x \leq -8$
5. $x < 4$

Day 12 — Compound Inequalities

1. $-3 < x < 4$
2. $2 \leq x \leq 5$
3. $-4 < x < 6$
4. $x < -4$ or $x > 6$
5. $-4 < x \leq 2$

Day 13 — Absolute Value Equations

1. $x = 9$ or $x = -9$
2. $x = 11$ or $x = -3$
3. $x = 2$ or $x = -3$
4. $x = -3$
5. $x = 6$ or $x = -2$

Day 14 — Absolute Value Inequalities

1. $-5 < x < 5$
2. $x \leq -3$ or $x \geq 3$
3. $-2 \leq x \leq 6$
4. $x < -4$ or $x > 2$
5. $-5 < x < 5$

Day 15 — Mixed Review — Week 3

1. $x \geq 3$
2. $x = -3$ or $x = -7$
3. $-4 < x \leq 4$
4. $x < 5$ or $x > 7$
5. $x > -5$

Day 16 — The Coordinate Plane & Relations

1. Quadrant II
2. The point where the line crosses the x-axis (where $y = 0$)
3. Yes — each input has exactly one output
4. $\{1, 2, 3\}$
5. The y-axis

Day 17 — Slope

1. $m = 2$
2. $m = 0$
3. Undefined
4. $m = -2$
5. y decreases by 3

Day 18 — Slope-Intercept Form & Graphing Lines

1. Slope = -2 , y-intercept = 5
2. $y = 3x - 2$
3. $y = -2x + 7$
4. $(0, -6)$
5. e.g., $(0, -1)$ and $(1, 0)$

Day 19 — x- and y-Intercepts & Special Lines

1. $(4, 0)$
2. $(0, -8)$
3. $y = 5$
4. $x = -2$
5. x-intercept $(4, 0)$, y-intercept $(0, 3)$

Day 20 — Mixed Review — Weeks 1-4

1. $2x - 10$
2. $x = 11$ or $x = -5$
3. $x \leq -4$
4. $m = 3$
5. Slope = $2/3$, y-intercept = -1

Day 21 — Writing Equations from Slope and a Point

1. $y - 5 = 3(x - 2)$
2. $y = -2x + 4$
3. $y = 4x - 1$
4. $y = 3x - 1$
5. $y = -(1/2)x$

Day 22 — Writing Equations from Two Points

1. $m = 3$; $y = 3x - 1$
2. $y = 2x - 3$
3. $y = -2x + 2$
4. $x = 4$
5. $y = 3$

Day 23 — Standard Form & Converting Between Forms

1. $2x - y = 5$
2. $y = -(3/2)x + 6$
3. $m = 2$
4. $y = 5x - 10$
5. $x + 3y = 6$

Day 24 — Parallel & Perpendicular Lines

1. $m = 4$
2. $m = -5/2$
3. Parallel
4. Perpendicular
5. $y = -x + 5$

Day 25 — Mixed Review — Week 5

1. $y = 2x - 7$
2. $m = -2$
3. $y = (2/3)x - 2$
4. $m = 1/4$
5. $y = -2$

Day 26 — Solving Systems by Graphing

1. The point(s) where the lines intersect
2. No solution
3. Infinitely many
4. Yes
5. One solution

Day 27 — Solving Systems by Substitution

1. $x = 4$, $y = 7$
2. $x = 3$, $y = 5$
3. $x = 5$, $y = 3$
4. $x = 2$, $y = 4$
5. $x = 2$, $y = 8$

Day 28 — Solving Systems by Elimination

1. $x = 6$, $y = 3$
2. $x = 4$, $y = 3$
3. $x = 4$, $y = 0$
4. $x = 2$, $y = 2$
5. $x = 3$, $y = 2$

Day 29 — Systems Word Problems

1. 16 and 8
2. 30 student tickets and 20 adult tickets
3. 12 and 8
4. 10 nickels and 10 quarters
5. Width = 5, length = 9

Day 30 — Mixed Review — Weeks 5-6

1. $y = 2x$
2. $x = 4, y = 3$
3. Parallel
4. $x = 3, y = 9$
5. Infinitely many

Day 31 — Laws of Exponents

1. x^7
2. x^{10}
3. x^5
4. $27x^6y^3$
5. x^3y^6

Day 32 — Negative & Zero Exponents

1. 1
2. $1/8$
3. x^3
4. x^3
5. 9

Day 33 — Scientific Notation

1. 5.6×10^4
2. 7.2×10^{-3}
3. 350,000
4. 0.009
5. 8×10^8

Day 34 — Exponential Functions & Growth/Decay

1. 48
2. Decay
3. 200
4. 1
5. Growth

Day 35 — Mixed Review — Week 7

1. $10x^5$
2. $1/16$
3. 4.5×10^{-4}
4. x^8
5. $P(t) = 100(2)^t$

Day 36 — Identifying & Classifying Polynomials

1. 3
2. Binomial
3. -3
4. $x^2 - 2x + 3$
5. No — polynomials cannot have negative exponents

Day 37 — Adding & Subtracting Polynomials

1. $3x^2 + 2x - 1$
2. $2x^2 - 3x + 5$
3. $3x^3 + x - 6$
4. 8
5. $x^2 - 4$

Day 38 — Multiplying Polynomials

1. $8x^3 - 12x^2 + 4x$
2. $x^2 + 2x - 15$
3. $6x^2 + 5x - 4$
4. $x^2 + 8x + 16$
5. $x^3 - 8$

Day 39 — Special Products

1. $x^2 - 49$
2. $9x^2 + 12x + 4$
3. $4x^2 - 25$
4. $x^2 - 12x + 36$
5. $x^2 - 1$

Day 40 — Mixed Review — Weeks 7-8

1. x^7
2. $4x^2 - 3x + 6$
3. $x^2 + 5x - 24$
4. 2.1×10^{-4}
5. $4x^2 + 12x + 9$

Day 41 — Factoring — GCF & by Grouping

1. $4x(2x + 3)$
2. $3x^2(2x - 3)$
3. $(x + 3)(x^2 + 2)$
4. $(y - 2)(4x + 3)$
5. $2x(x - 3)$

Day 42 — Factoring Trinomials (a = 1)

1. $(x + 4)(x + 5)$
2. $(x - 5)(x + 3)$
3. $(x - 3)(x - 4)$
4. $(x + 3)(x - 2)$
5. $(x - 5)^2$

Day 43 — Factoring Trinomials ($a \neq 1$)

1. $(2x + 1)(x + 3)$
2. $(3x - 4)(x - 2)$
3. $(2x + 1)(x - 3)$
4. $(2x + 3)(2x - 1)$
5. $(3x - 2)(2x + 1)$

Day 44 — Special Factoring Patterns

1. $(x - 6)(x + 6)$
2. $(3x - 4)(3x + 4)$
3. $(x + 5)^2$
4. $(2x - 3)^2$
5. $(5x - 2)(5x + 2)$

Day 45 — Mixed Review — Week 9

1. $(x - 6)(x + 2)$
2. $3x(x + 4)$
3. $(x - 9)(x + 9)$
4. $(2x + 1)(x + 5)$
5. $(x - 7)^2$

Day 46 — Solving Quadratics by Factoring

1. $x = 2, 3$
2. $x = \pm 4$
3. $x = -5, 2$
4. $x = 0, 4$
5. $x = 4$

Day 47 — Solving Quadratics Using Square Roots

1. $x = \pm 7$
2. $x = \pm 3$
3. $x = \pm 5$
4. $x = 7$ or $x = -1$
5. $x = 0$

Day 48 — The Quadratic Formula

1. $x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$
2. $x = 2, -4$
3. $x = 2 \pm \sqrt{3}$
4. 0
5. 0 (discriminant = -19 , so no real solutions)

Day 49 — Graphing Quadratic Functions

1. $(3, 2)$
2. $x = 3$
3. Down
4. $(0, -5)$
5. $(-2, -4)$

Day 50 — Mixed Review — Week 10

1. $x = 6, -4$
2. $x = \pm 10$
3. $x = (5 \pm \sqrt{17})/2$
4. $(-2, -7)$
5. 17

Day 51 — Simplifying Radicals

1. $4\sqrt{2}$
2. $3x\sqrt{5}$
3. 7
4. 4
5. $6\sqrt{2}$

Day 52 — Operations with Radicals

1. $5\sqrt{5}$
2. $3\sqrt{3}$
3. 6
4. $\sqrt{2}/2$
5. $5 + 2\sqrt{5}$

Day 53 — Solving Radical Equations

1. $x = 49$
2. $x = 13$
3. $x = 5$
4. $x = 16$
5. $x = 1$

Day 54 — Simplifying Rational Expressions

1. $3/x^3$
2. $x - 2$
3. $x/(x + 5)$
4. 3
5. $x + 1$

Day 55 — Mixed Review — Week 11

1. $5\sqrt{2}$
2. $5\sqrt{2}$
3. $x = 4$
4. $x + 3$
5. $\sqrt{3}$

Day 56 — Comprehensive Review I

1. $x = 5$
2. $(x - 3)(x + 2)$
3. $m = 3$
4. $6x^6$
5. $x = 4$ or $x = -8$

Day 57 — Comprehensive Review II

1. $x = 3, y = 4$
2. $4\sqrt{3}$
3. $x = 3, 6$
4. $y = 4x - 2$
5. $x - 4$

Day 58 — Comprehensive Review III

1. $x = 5$
2. $(2x - 5)(2x + 5)$
3. $x > -3$
4. $x = 1 \pm \sqrt{2}$
5. $1/9$

Day 59 — Comprehensive Review IV

1. $x^2 + 2x - 24$
2. $x = 5$
3. Neither
4. $(1, -5)$
5. 0.00063

Day 60 — Algebra 2 Ready! (Final Comprehensive Review)

1. $x = 2, -7$
2. $x = 5, y = 3$
3. $9x^4y^6$
4. $x = 5$ or $x = -2$
5. $y = 2x$, slope = 2