

# Algebra 2 Summer Review ANSWER KEY

## Order of Operations

- |                     |                     |                    |                     |
|---------------------|---------------------|--------------------|---------------------|
| 1. 6                | 2. $\frac{29}{4}$   | 3. $-\frac{49}{6}$ | 4. 4                |
| 5. -16              | 6. 16               | 7. -64             | 8. -64              |
| 9. $4m^5$           | 10. $3k^3$          | 11. $16x^{12}$     | 12. $\frac{1}{2b}$  |
| 13. 12              | 14. -3              | 15. $x^3$          | 16. $4\sqrt{6}$     |
| 17. $\frac{23}{20}$ | 18. $\frac{27}{4}$  | 19. $\frac{19}{8}$ | 20. $-\frac{18}{7}$ |
| 21. $\frac{7}{3}$   | 22. $\frac{25}{12}$ | 23. $\frac{5}{12}$ | 24. $\frac{13}{2}$  |
| 25. $\frac{35}{16}$ | 26. $\frac{26}{11}$ | 27. $\frac{9}{20}$ | 28. $\frac{4}{21}$  |

## Combining Like Terms/Simplifying Expressions

- |                  |                     |
|------------------|---------------------|
| 1. $9x - 1$      | 2. $8c - 33$        |
| 3. $8a - 8b + 7$ | 4. $-3x^2 + 3x + y$ |

## Evaluating Expressions

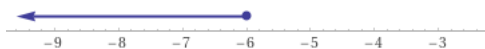
- |                   |        |
|-------------------|--------|
| 1. $\frac{12}{5}$ | 2. -75 |
| 3. $\frac{11}{6}$ | 4. 10  |

## Solving Multi-Step Equations

- |                     |                       |
|---------------------|-----------------------|
| 1. $b = -6$         | 2. $m = 3$            |
| 3. $k = -4$         | 4. $v = 5$            |
| 5. $v = 8$          | 6. $m = \frac{15}{4}$ |
| 7. $x = 4$          | 8. $x = 7$            |
| 9. No Real Solution | 10. All Real Numbers  |

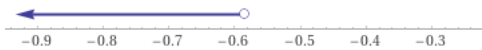
## Solving Multi-Step Inequalities

- |                                   |                                |
|-----------------------------------|--------------------------------|
| 1. $p \leq -6$ or $(-\infty, -6]$ | 2. $x \geq 7$ or $[7, \infty]$ |
|-----------------------------------|--------------------------------|



# Algebra 2 Summer Review ANSWER KEY

3.  $x < -\frac{7}{12}$  or  $(-\infty, -\frac{7}{12})$



4.  $n < -9$  or  $(-\infty, -9)$



## Solving Literal Equations

1.  $x = \frac{p-n}{m}$

2.  $a = \frac{c}{g+b}$

3.  $a = \frac{3v-9w}{4}$

4.  $t = \frac{9sr+1}{4}$

## Solving Absolute Value Equations and Inequalities

1.  $v = -3, 13$

2.  $n = \pm 10$

3.  $n = \frac{3}{2}, \frac{15}{2}$

4.  $x = -6, \frac{13}{3}$

5.  $x = 1, 3$

6.  $x = \frac{1}{4}$

7.  $-6 \leq n \leq 26$  or  $[-6, 26]$

8.  $v < -15$  or  $v > 9$  or  $(-\infty, -15) \cup (9, \infty)$



## Translating Word Problems to Algebra

1.  $3n + 22 = 7n - 14$

2.  $x + 5x - 18 = 90$

3.  $n + 8 = 3n$

$n = 9$

$18^\circ, 72^\circ$

4 years old

## Slope-Intercept Form

1.  $y = -\frac{2}{3}x + 3$

2.  $y = \frac{1}{2}x - 5$

3.  $y = -\frac{11}{8}x - 4$

4.  $y = \frac{3}{2}x + 6$

5.  $y = -\frac{1}{3}x + 8$

6.  $y = -2x + 2$

## Standard Form

1.  $3x - y = 2$

2.  $7x + 4y = 8$

3.  $3x - 4y = 4$

4.  $x + 2y = -12$

# Algebra 2 Summer Review ANSWER KEY

## Point-Slope Form

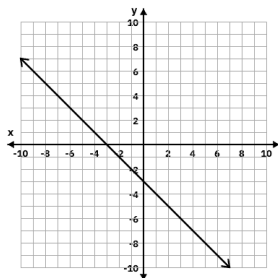
1.  $y + 5 = 1(x - 3) \rightarrow y = x - 8$

2.  $y + 2 = \frac{3}{2}(x + 2) \rightarrow y = \frac{3}{2}x + 1$

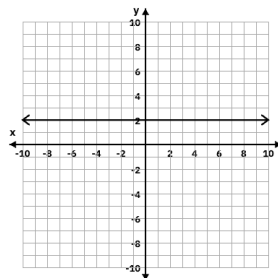
3.  $y - 3 = \frac{4}{9}(x - 4) \rightarrow y = \frac{4}{9}x + \frac{11}{9}$

4.  $y + 1 = -\frac{3}{4}(x - 1) \rightarrow y = -\frac{3}{4}x - \frac{1}{4}$

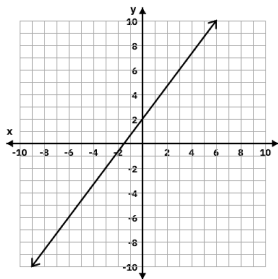
## Graphing Linear Equations



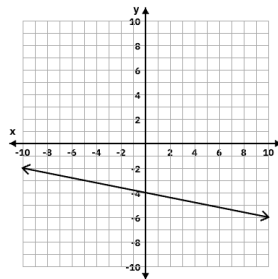
1.



2.



3.



4.

## Finding x- and y-intercepts

1.  $x: (\frac{16}{9}, 0), y: (0, 4)$

2.  $x: (-\frac{30}{7}, 0), y: (0, 6)$

## Calculating Slope

1.  $-\frac{1}{2}$

2.  $-\frac{1}{5}$

3.  $-\frac{7}{5}$

4.  $-\frac{6}{5}$

## Parallel and Perpendicular Lines

1. Neither

2. Perpendicular

3.  $y = -\frac{7}{4}x + \frac{1}{4}$

4.  $y = \frac{5}{2}x + 5$

5.  $y = \frac{3}{2}x - 3$

6.  $y = -3x - 5$