

## Algebra 2 Summer Assignments Directions:

Make a print copy of the summer assignment problems.

Show all work and answers on your print copy.

Be prepared to hand in your completed assignment on the **first full day** of classes.

The topics on your assignment are listed below. If you need to review before attempting the problems on the assignment, see Khan Academy for videos to assist you.

### **Topics:**

Order of Operations

Evaluating Expressions

Combining Like Terms

Solving Basic Equations

Properties of Numbers

Classifying Numbers

**Honors ONLY: Solving inequalities and Absolute Value Equations**

**Algebra 2 Level 2 and Level 3** Note: Selected answers on on the last page. Show all work !!!**Evaluate each expression. Show all steps that lead to your answer.**

1)  $2 + 6(3 - 1)^2$

2)  $2 + 10 \div 5 + 5 \times 4$

3)  $6 - 5 + 18 \div -3 \times -3$

4)  $(-5 + 3)^2 \cdot -3 \cdot 2$

5)  $10 \div -5 + (-1 - 5)^2$

**Evaluate each using the values given. Show all steps that lead to your answer.**

6)  $4y - \frac{zy}{6}$ ; use  $y = 5$ , and  $z = 6$

7)  $zx^2 + 4 + x$ ; use  $x = 4$ , and  $z = 2$

8)  $\frac{b^3}{4}(b - c)$ ; use  $b = 4$ , and  $c = 2$

9)  $y + z - (1 + y^2)$ ; use  $y = -3$ , and  $z = 2$

10)  $\frac{y}{2}(y - (z + x))$ ; use  $x = 5$ ,  $y = -2$ , and  $z = 1$

11)  $y^3 - \frac{3x}{3}$ ; use  $x = -1$ , and  $y = -2$

**Simplify each expression. For examples 15 - 18, show all steps that lead to your answer.**

12)  $7x + 7 + x - 4$

13)  $5v + 8 - 4x - 3v - 9x$

14)  $2y + 10x - 9 + 5y - 4x + 1$

15)  $6(m + 8) + 5m$

16)  $-7(4 - 2p) - 7p$

$$17) 7(k - 2) + 2(4 - 4k)$$

$$18) -3(8 - 5x) - 6(5 + 2x)$$

**Solve each equation. Show all steps that lead to your answer.**

$$19) -20 = p - 4 + 7p$$

$$20) 7b - 6b - 16 = 4b - 4$$

$$21) 272 = n + 6(6n - 4)$$

$$22) -3(7k + 1) = 8(-3k + 3)$$

$$23) 4(2 + 5x) = 12x - 6(x + 8)$$

$$24) -(3p - 11) - 3(6 - 3p) = 10p - 2 - 1$$

**How can each number be classified? Circle all that apply.**

$$25) 12$$

Real Number

Rational Number

Irrational number

Natural Number

Whole Number

Integer

$$26) \frac{1}{5}$$

Real Number

Rational Number

Irrational number

Natural Number

Whole Number

Integer

$$27) -15$$

Real Number

Rational Number

Irrational number

Natural Number

Whole Number

Integer

**Circle the property that is illustrated by each of the following statements.**

28)  $5x + 6 = 6 + 5x$

Commutative Property of Addition

Associative Property of Addition

Distributive Property

Additive Identity Property

29)  $4(5 \cdot 3) = 4(3 \cdot 5)$

Commutative Property of Multiplication

Associative Property of Multiplication

Distributive Property

Multiplication Identity Property

30)  $6 \cdot \frac{1}{6} = 1$

Commutative Property of Multiplication

Associative Property of Multiplication

Inverse Multiplication Property

Distributive Property



## Answers to Algebra 2 Level 2 and Level 3

- |                    |             |                |                |
|--------------------|-------------|----------------|----------------|
| 1) 26              | 2) 24       | 3) ??          | 4) -24         |
| 5) ??              | 6) 15       | 7) 40          | 8) 32          |
| 9) -11             | 10) ??      | 11) ??         | 12) $8x + 3$   |
| 13) $2v - 13x + 8$ | 14) ??      | 15) $11m + 48$ | 16) $-28 + 7p$ |
| 17) $-k - 6$       | 18) ??      | 19) $\{-2\}$   | 20) $\{-4\}$   |
| 21) ??             | 22) $\{9\}$ | 23) ??         | 24) $\{-1\}$   |
| 25)                |             | 26)            |                |
| 27) ??             | 28)         | 30) ??         |                |
| 29)                |             |                |                |