

Name \_\_\_\_\_

Date: \_\_\_\_\_

**Math Summer Work Packet: Algebra II**  
**Due on the first Day of class in September**

1) Solve for x:  $|10 - 2x| = 2$

2) Subtract:  $(a^2 - 6a + 2) - (a - 6)$

3) Multiply:  $(3a + b)^2$

4) Multiply:  $(r - s)(r^2 + 3rs - s^2)$

5) Factor Completely:  $b^2 + 13b + 12$

6) Factor Completely:  $2x^2 - 5x - 12$

7) The length of a rectangle is two feet greater than its width. If the area of the rectangle is 24 square feet, what is its length?

8) For what value of the below expression make the fraction undefined?

$$\frac{x - 4}{x^2 - 6x}$$

9) Simplify:

$$\frac{x^2 - 16x}{x^3 + 12x^2 + 32x}$$

10) Add  $\sqrt{75} + \sqrt{12}$

11) Simplify:  $\sqrt{48a^4b^9}$

12) Solve for x:  $|2x - 4| + 3 = 5$

13) Simplify the following exponents:  $\frac{a^0 b^{-7}}{c^{-2}}$

14) Using a, b, and c, show how the **Distributive Property** works.

15) Define the **Additive Inverse** and give an example.

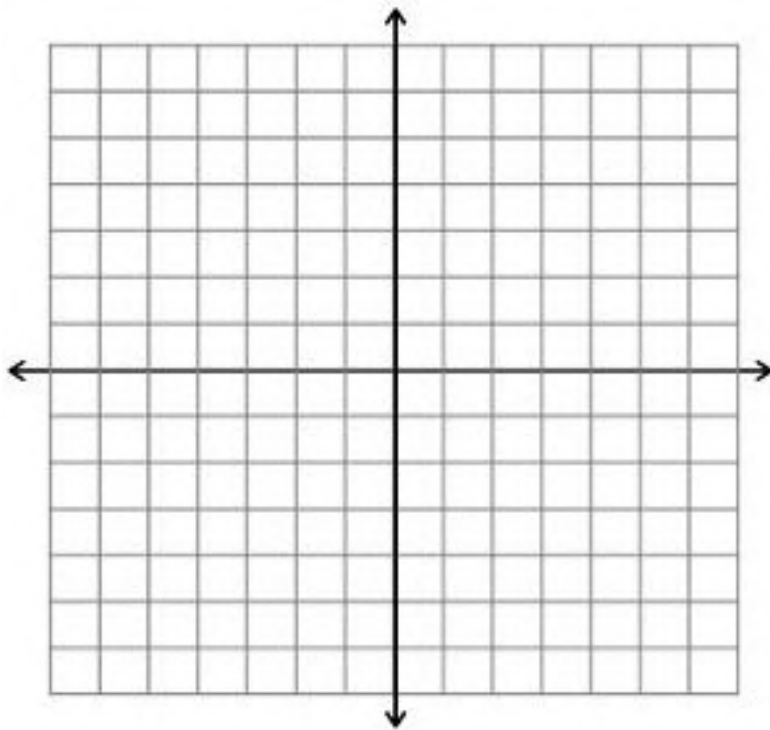
16) Define the **Multiplicative Inverse** and give an example.

17) Evaluate  $3pq - q$  for  $p = \frac{1}{2}$  and  $q = -3$

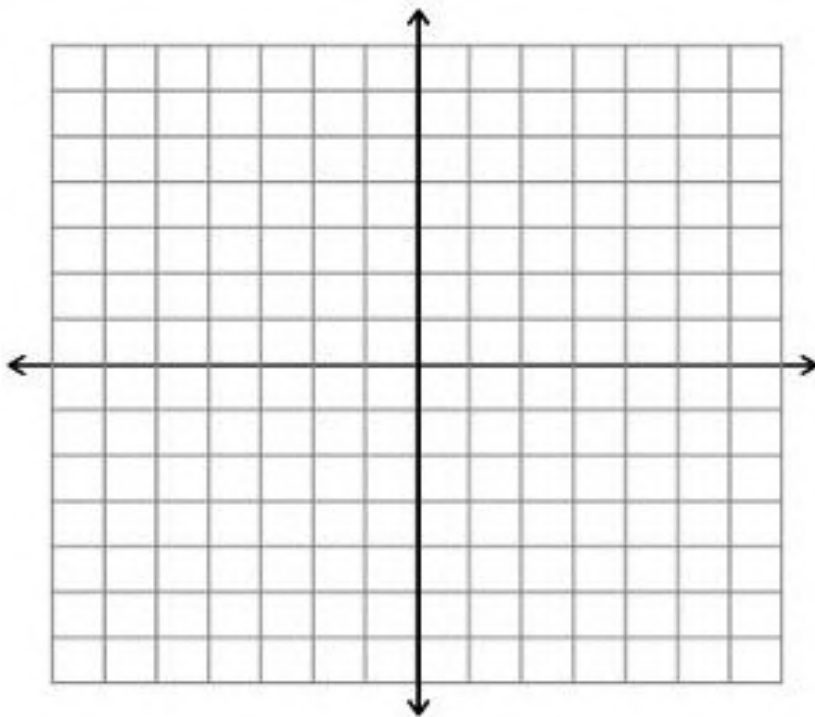
18) If the area of a rectangle is represented by  $25x^3y^6$  and its width is represented by  $10xy$ , express the length of the rectangle in terms of  $x$  and  $y$ .

19) Solve for  $x$ :  $\sqrt{y^2 + 3} = y + 1$

20) Graph:  $y = \frac{1}{2}x - 3$



21) Graph:  $x^2 - 6x + 8$



22) Graph:  $y = |2x - 4| + 3$

