

Directions: Please answer the following questions. **Show work!!**

1. List the domain and range. Is the relation a function? EXPLAIN!

$$\{(3,4), (1,-8), (5,4), (-5,5), (0,-3)\}$$

2. For the expression,  $4x + 3 - 7y$

a. Identify the constant.

b. What vocabulary word describes the 4 in  $4x$ ?

c. What vocabulary word describes the  $y$  in  $-7y$ ?

Solve and graph on a number line.

3.  $4m > 6m + 30$

4.  $\frac{5}{8}p \leq 50$

5. Use the rules of exponents to simplify.

a.  $(3a^2bc^5)^2 \cdot 4ac^7$

b.  $\frac{100xy^7z}{15xyz^3}$

6. Simplify the following roots.

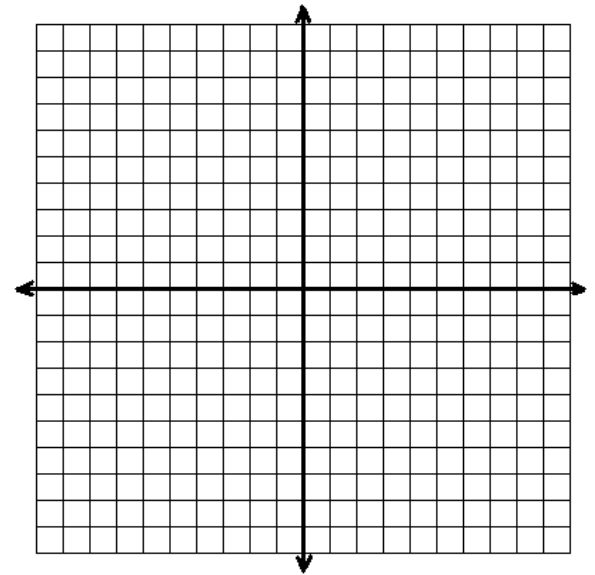
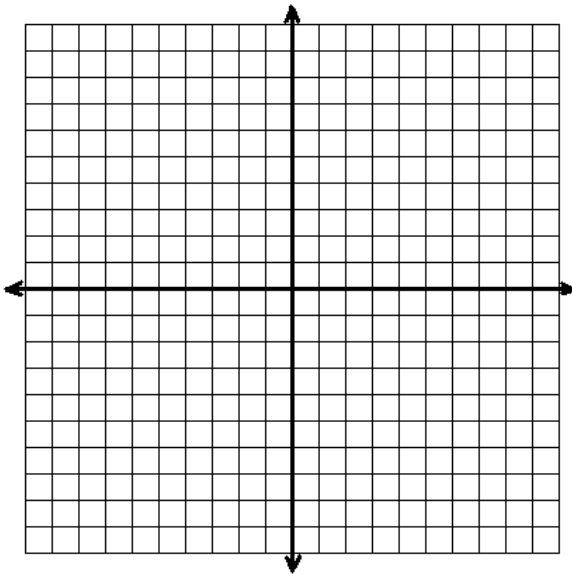
a.  $\sqrt{250}$

b.  $\sqrt{144x^5y^8}$

7. In a race, would you rather your car had an average speed of 64 meters per second or an average speed of 223,000 meters per hour? Explain your reasoning.

8. Graph  $6x + 3y = 12$

9. Graph  $5y = 2x - 35$



10. For  $m(x) = 3x - 1$ ,  $v(x) = x^2 + 2x + 5$ , and  $g(x) = x^4$ , find the following.

a.  $g(-1)$

b.  $m(90)$

c.  $v(2)$