 Name:_____

1. What is the slope of the line that passes through the points $(4, 7)$ and $(7, 16)$? Write your answer in *simplest form*.

2. What is the equation of the line that passes through the point $(5, -5)$ and has a slope of $\frac{1}{5}$?

3. Which equation represents a line which is parallel to $x = 0$?

A. $y = 5$ B. $x = 4$

C. $x = \frac{1}{4}y$ D. $x = -4y$

4. Find the slope of a line perpendicular to the line whose equation is $10x - 12y = -24$. Fully simplify your answer.

5. Find an equation for the perpendicular bisector of the line segment whose endpoints are $(-1, -3)$ and $(3, 1)$.

6. Find the equation of a line perpendicular to $x - 6y = 12$ that passes through the point $(6, 2)$.

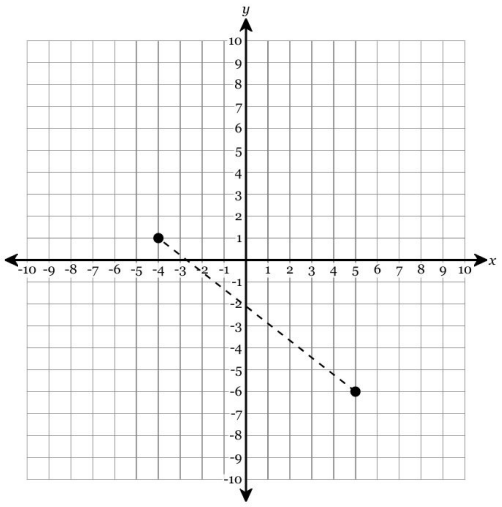
A. $y + 2 = \frac{1}{6}(x - 6)$

B. $y - 2 = 6(x - 6)$

C. $y - 2 = -\frac{1}{6}(x - 6)$

D. $y - 2 = -6(x - 6)$

7. Graph a right triangle with the points $(5, -6)$ and $(-4, 1)$ forming the hypotenuse. Using the sides, find the distance between the two points in simplest radical form.



Leg 1: _____ Leg 2: _____ Hypotenuse: _____

8. Find the distance between the two points in simplest radical form.

$$(4, 0) \text{ and } (2, -9)$$

9. Find the midpoint of the segment with the following endpoints.

$$(3, 1) \text{ and } (-7, -9)$$

10. The midpoint of $\overline{AB}$ is $M(2, 4)$. If the coordinates of A are $(-1, 5)$, what are the coordinates of B?