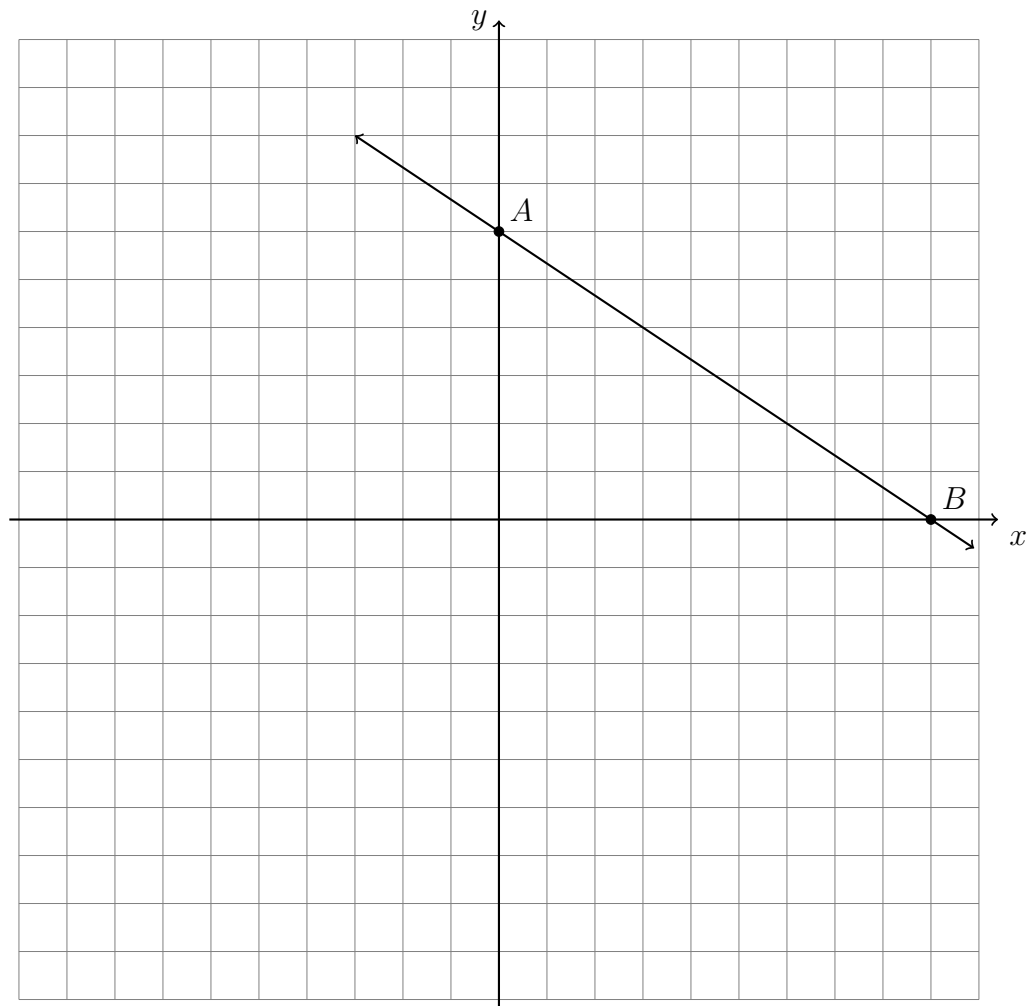


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6.1 Do Now: Quadratic graphs and transformations

1. On the graph below, \overleftrightarrow{AB} is shown with A(0, 6), B(9,0). A dilation of $k = \frac{2}{3}$ centered at the origin maps $\overleftrightarrow{AB} \rightarrow \overleftrightarrow{A'B'}$.

Draw $\overleftrightarrow{A'B'}$ on the graph, labeling A' and B' .



(a) Write down the equation \overleftrightarrow{AB}

(b) Write down the equation $\overleftrightarrow{A'B'}$

2. Given $f(x) = -x + 1$. Simplify $f(5)$.

3. Find $g(x) = \frac{1}{2}x - 3$ for $x = 6$.

4. Given $h(x) = \frac{2x - 3}{7}$. Evaluate the expression $h(-2)$.

5. The line \overleftrightarrow{PQ} has the equation $y = 3x + 9$ with the two points' coordinates $P(0, a)$ and $Q(b, 0)$. Find the values of a and b .

Simplify each expression ("Collect like terms")

6. $x^2 - 3x - 4 + 2x^2 + 2x + 4$

7. $5(a^2 - 3a + 1) - 2(a^2 + 2a - 3)$

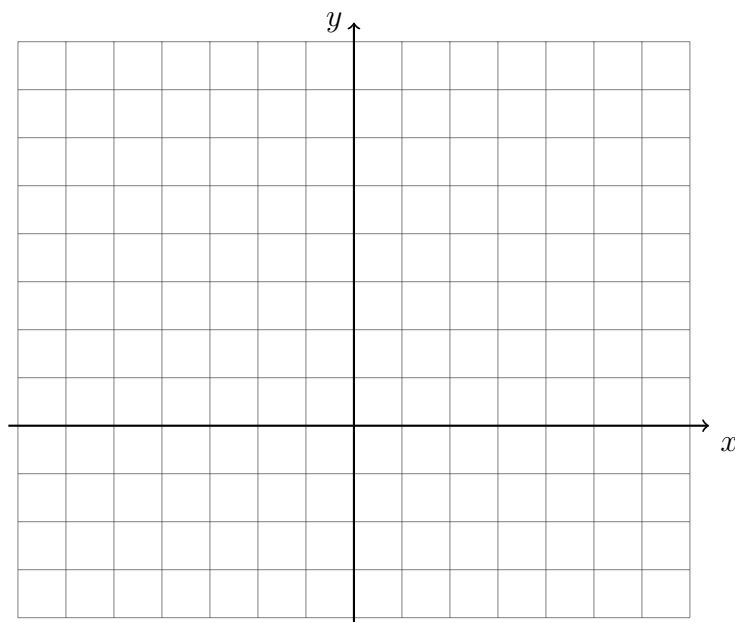
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8. Graph and label the two equations. Mark their intersection as an ordered pair.

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

$$y = -2x + 7$$

Are the lines parallel, perpendicular, or neither? Justify your answer.



In the following two problems, solve for the value of x .

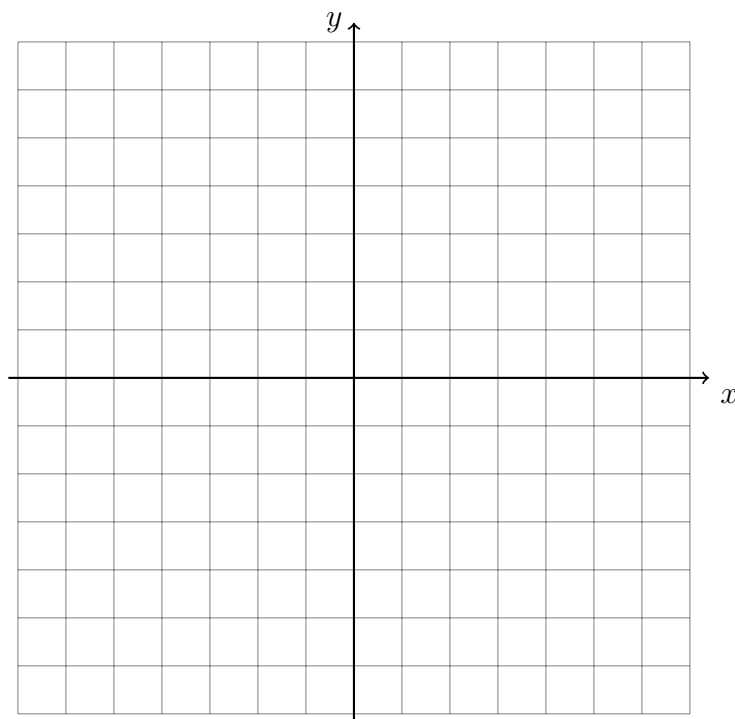
9. $\frac{2}{5}(8 - 3x) = 2$

10. $\frac{1}{3}(6 - 3x) = 11$

11. Solve for y , then graph and label, marking the intersection as an ordered pair.

$$3x - 2y = 12$$

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



12. A dilation of $k = 2$ centered at the origin maps $\overline{AB} \rightarrow \overline{CD}$, with $A(0, 2)$ and $B(4, 0)$. Find the slopes and y -intercepts of \overleftrightarrow{AB} and \overleftrightarrow{CD} , and hence write down the equations of the two lines.