

Name: _____ Period: _____

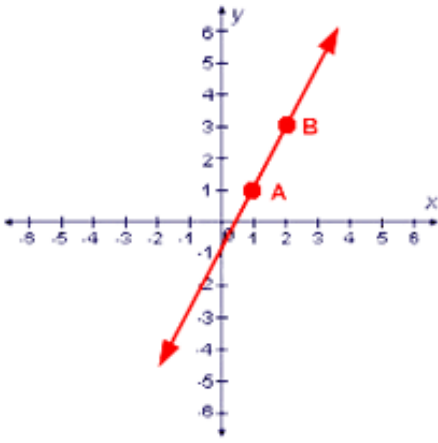
4B. Graphing Parallel and Perpendicular Lines Practice

Basic

1. Find the slope of the line that goes through $(-1, 4)$ and $(2, 9)$.
2. Find the slope of the line that goes through $(2, 0)$ and $(3, -4)$.
3. Given the equation of a line $y = -3x + 5$,
 - a. What is the slope?
 - b. What is the y-intercept?
4. Given the equation of a line $3x + y - 2 = 0$,
 - a. What is the slope?
 - b. What is the y-intercept?
5. Given the equation of a line $y = \frac{1}{4}x - 3$,
 - a. What is the slope of a line parallel to the given line?
 - b. What is the slope of a line perpendicular to the given line?
6. Given the equation of a line $y = -5x + 2$,
 - a. What is an equation of a line parallel to the given line?
 - b. What is the equation of a line perpendicular to the given line?
7. What is the equation of the line that has a slope of $\frac{1}{2}$ and passes through the point $(-2, 1)$?
8. What is the equation of a line that passes through the points $(3, -2)$ and $(4, 6)$?

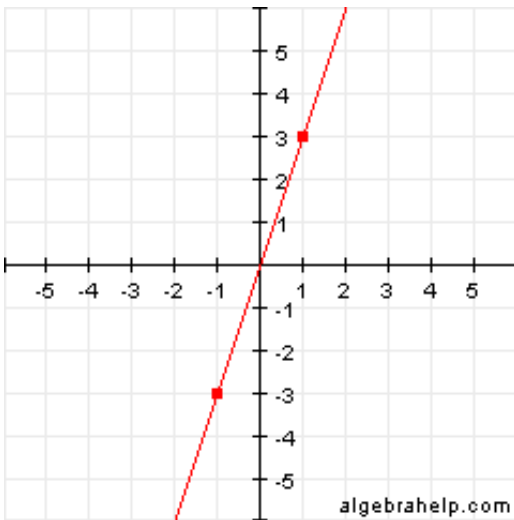
Proficient

1. What is the equation of the line parallel to $y = -3x + 2$ that passes through the point $(6, 3)$?
2. What is the equation of the line perpendicular to $y = \frac{1}{4}x - 3$ that passes through the point $(4, 2)$?
3. Line AB is shown on the graph below. This line undergoes the translation $(x, y) \rightarrow (x + 4, y)$ to line A'B'.



- Draw line A'B' on the graph.
- Line AB is _____ to line A'B'.
- What is true about the slopes of lines AB and A'B'? Show your slope calculations!

4. Line AB is shown on the graph below. This line undergoes the rotation $(x, y) \rightarrow (-y, x)$ to line A'B'.



- Draw line A'B' on the graph.
- Line AB is _____ to line A'B'.
- What is true about the slopes of lines AB and A'B'? Show your slope calculations!

Advanced

1. Do the points $(-1, 0)$, $(-2, 2)$, $(3, 2)$, and $(2, 4)$ make a rectangle? Explain your reasoning. Really. Connect it to this standard: Parallel and Perpendicular Lines.

2. Do the points $(-1, 1)$, $(2, 0)$, $(-2, -2)$, $(1, -3)$ make a parallelogram? Explain your reasoning. A lot of reasoning. *Note: Parallelograms are defined as a quadrilateral with opposite sides parallel.*