

Worksheet: Writing an Equation of a line given two points

For each problem:

1. Find the slope of the line through the two points.
2. Confirm that you found the slope correctly by comparing your answer to the list of slopes.
3. By substituting the x , y , and m into the slope equation, solve for b .
4. Write the equation of the line in slope-intercept form ($y = mx + b$).
5. Confirm that you have the correct equation by looking at the list of equations.

Two Points (the problems)	Work: Finding m (the slope)	Work: Finding b (the y-intercept)	The equation of the line through the two points
1. (0, -3) and (3, 3)			
2. (0, 1) and (3, 3)			
3. (-3, 2) and (-1, -2)			
4. (-4, 5) and (2, -4)			
5. (0, 5) and (-3, -4)			
6. (2, 1) and (-2, 5)			
7. (3, 4) and (-3, -4)			
8. (4, 1) and (-4, 3)			
9. (-4, -3) and (5, -3)			
10. (0, -5) and (5, -3)			

List of slopes (in numerical order with 2 "extra" slopes)
-3
-2
$-\frac{3}{2}$
-1
$-\frac{1}{4}$
0
$\frac{1}{4}$
$\frac{2}{5}$
$\frac{2}{3}$
$\frac{4}{3}$
2
3

List of equations (in random order with 2 "extra" equations)
$y = -\frac{1}{4}x + 2$
$y = \frac{4}{3}x - 1$
$y = -\frac{3}{2}x + 2$
$y = 2x - 3$
$y = 3x + 5$
$y = \frac{2}{3}x + 1$
$y = -x + 3$
$y = -\frac{3}{2}x - 1$
$y = -3$
$y = \frac{4}{3}x$
$y = \frac{2}{5}x - 5$
$y = -2x - 4$