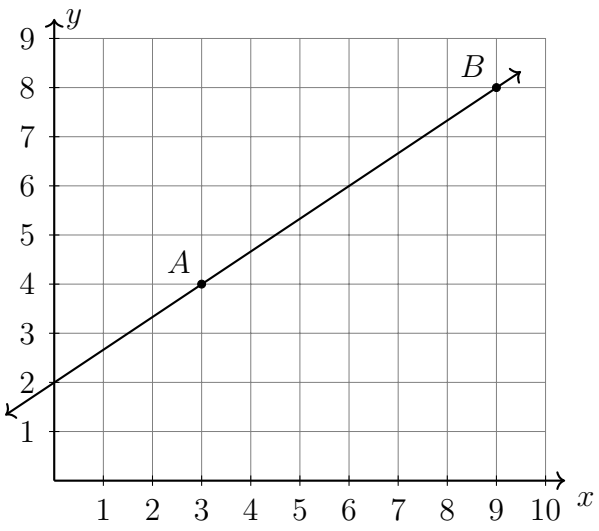
6.2 Classwork: Linear equations 8.F.A.3

The slope of a line: $m = \dfrac{y_2 - y_1}{x_2 - x_1}$

1. Find the slope of the line through the points $A(3, 4)$, $B(9, 8)$.

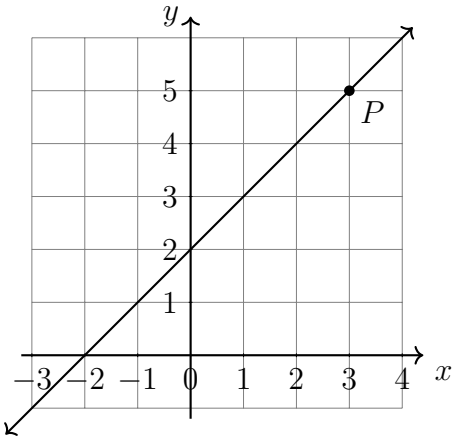


The slope-intercept equation of a line

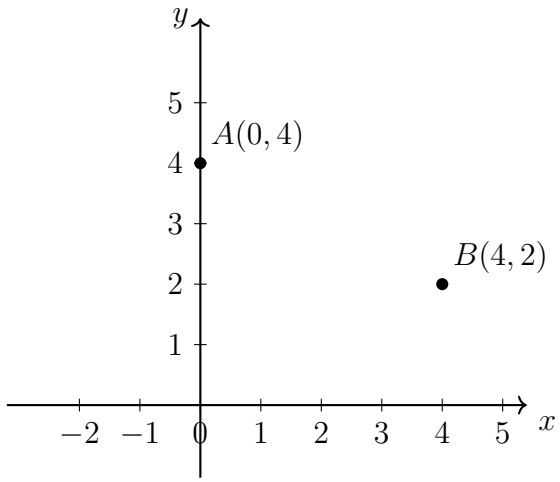
$y = mx + b$, where m is the slope and b is the y-intercept

2. The line l has the equation $y = \frac{3}{2}x - 1$.
   (a) Write down it's slope and y-intercept. $m =$ $b =$
   (b) Is the point $(4, 4)$ on the line l? Justify your answer.

3. A line is shown on the grid below.
   (a) Write down it's slope, y-intercept.
   $m =$ $b =$
   (b) Write down the equation of the line.
   (c) State the coordinates of the point P.



4. Draw a straight line through the points A and B shown on the grid below.



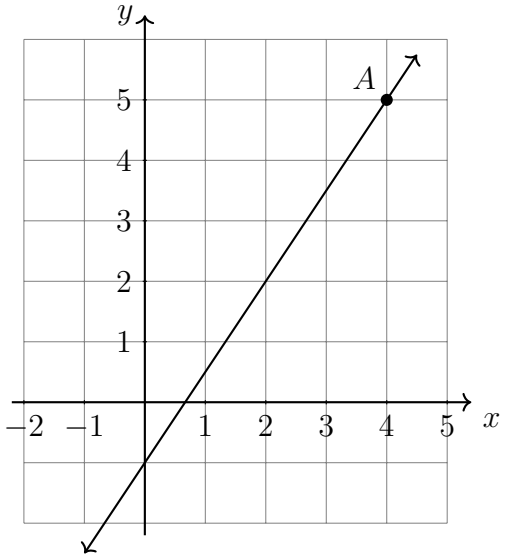
   (a) Write down the line's y-intercept.
   $b =$

   (b) Write down the slope of the line.
   $m =$

   (c) Write down the equation of the line.

5. Find the slope of the line through the points $(-1, 3)$ and $(5, 0)$.

6. A linear equation is graphed below.



   (a) State the coordinates of the point A.

   (b) Write down the line's slope.
   $m =$

   (c) Write down it's y-intercept.
   $b =$

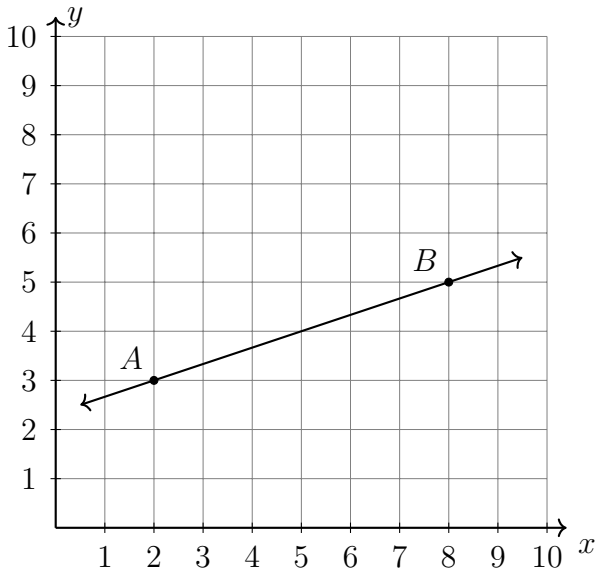
   (d) Write down the equation of the line.

   (e) Find the x-intercept.

The slope of a line

"rise over run": $m = \dfrac{y_2 - y_1}{x_2 - x_1}$

7. Find the slope of the line through the points $A(2, 3)$, $B(8, 5)$.



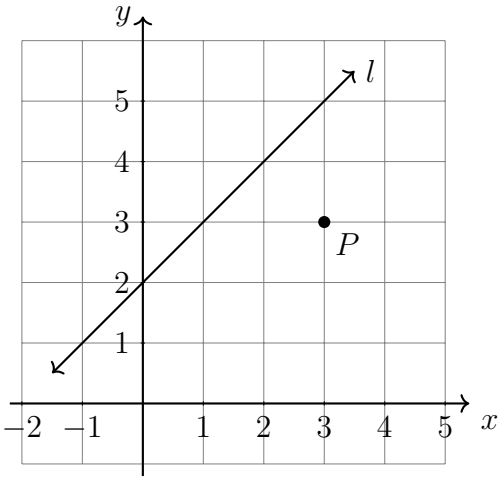
8. The line l is graphed at right.

   (a) Write down the line's slope.
   $m =$

   (b) Write down it's y-intercept.
   $b =$

   (c) Write down the equation of the line.

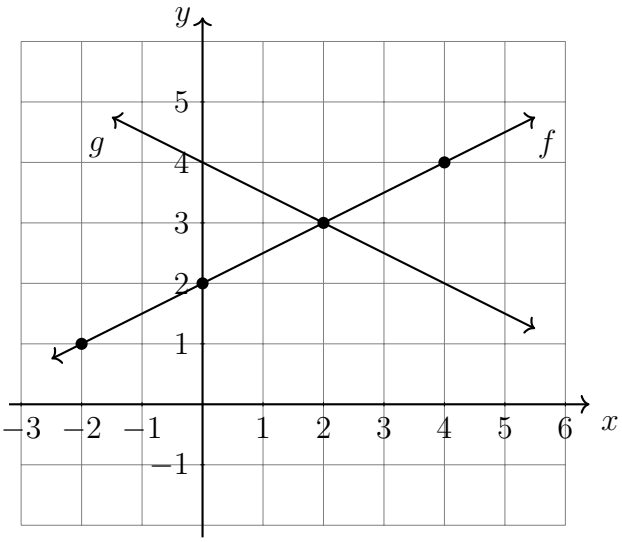
   (d) Draw a line parallel to l through point P. (use a straight edge for full credit)



9. Two lines are graphed below.
   (a) Complete the T-tables for each.
   (b) Write down the equations for each.

$f(x)$

x	y
-2	
0	
2	
	4



$g(x)$

10. Write the linear equation $y - 5 = \frac{2}{3}(x - 3)$ in the form $y = mx + c$.