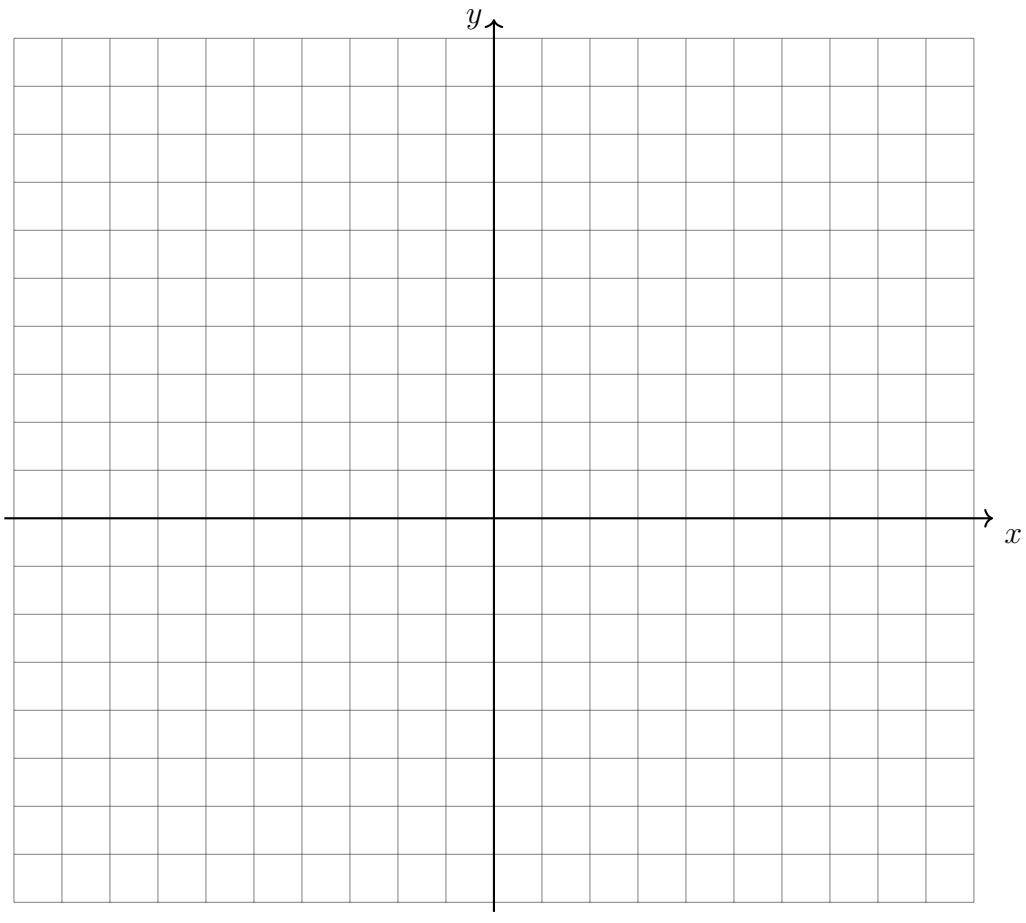
6.9 Classwork: Applications ystems of linear equations HSG.REI.C.6

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

   $f(x) = -\frac{1}{2}x + 3$ $g(x) = \frac{7}{4}x - 6$

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



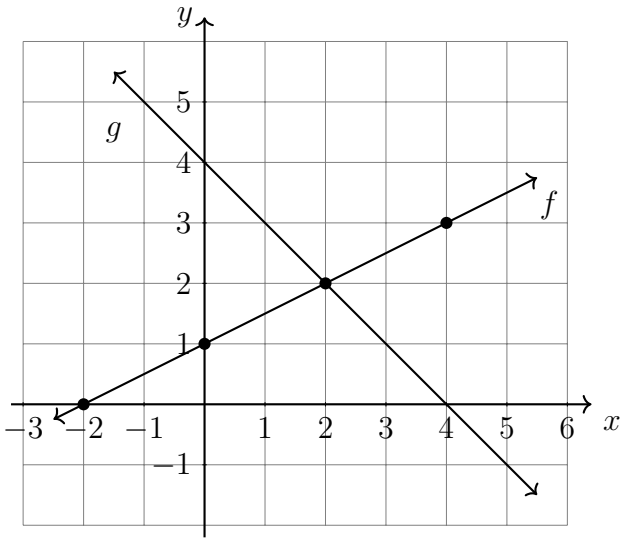
2. Two lines are graphed below.

   (a) Complete the T-tables for each.

   (b) Write down the equations for each.

$f(x)$

x	y
-2	
0	
2	
	3



$g(x)$

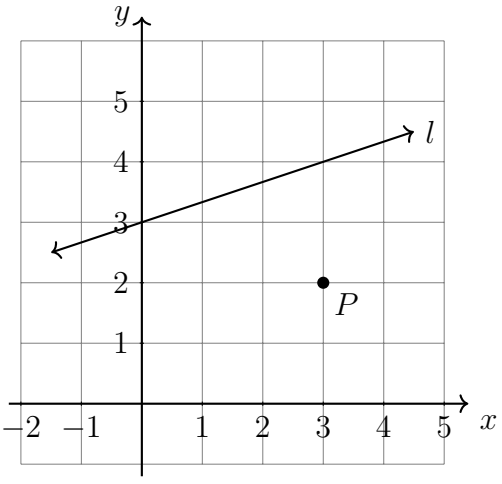
3. The line l is graphed at right.

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

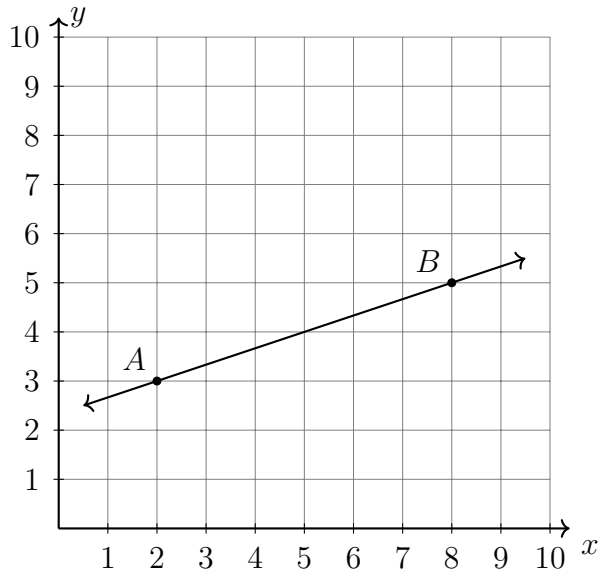
   (b) Write down it's y-intercept.
   $b =$

   (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)



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



5. Find the slope of the line through the points $(3, -2)$ and $(-3, 2)$.

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

7. Is the point $(-4, 1)$ on the line $y = \frac{1}{2}x + 3$? Support your answer algebraically.

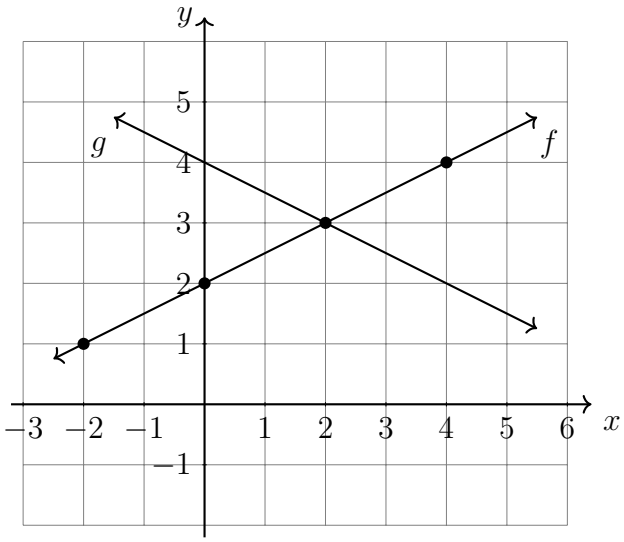
8. Two lines are graphed below.

   (a) Complete the T-tables for each.

   (b) Write down the equations for each.

$f(x)$

x	y
-2	
0	
2	
	4



$g(x)$

9. 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)