SOLUTIONS 1

Name:

9.8 Pretest **Linear & quadratic functions on the coordinate plane**

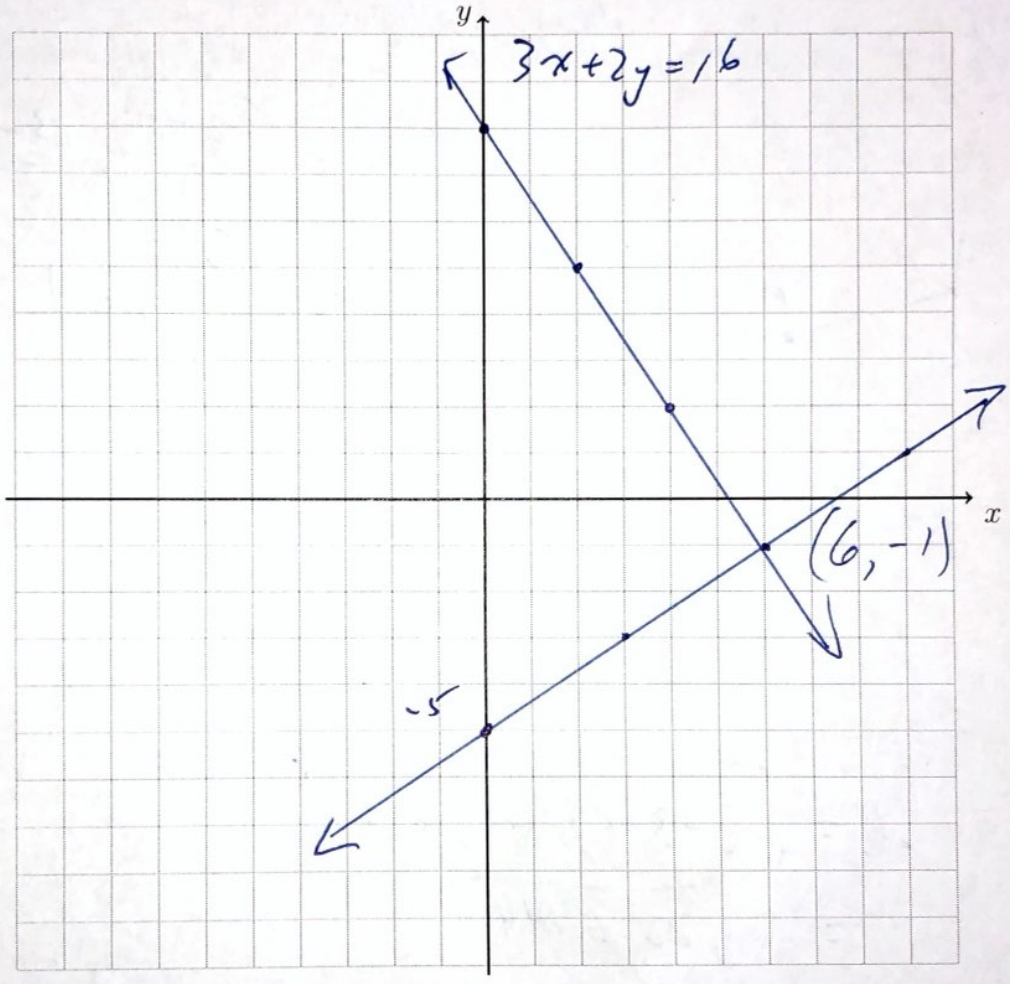
1. Graph and label the two equations. Mark their intersection as an ordered pair.

$y = \frac{2}{3}x - 5$ $\qquad$ $3x + 2y = 16$

$2y = -3x + 16$ $\qquad$ $y = -\frac{3}{2}x + 8$

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

$\perp$: $\left(\frac{2}{3}\right)\left(-\frac{3}{2}\right) = -1$



2. Find the decimal value of each expression, rounded to the nearest hundredth.

(a) $5\sqrt{7}$ = 13.2287... ≈ 13.23

(b) $\frac{4^2}{17}$ = 0.941176... ≈ 0.94

(c) $4 - \sqrt{7}$ = 1.35424... ≈ 1.35

(d) 7π = 21.99114... ≈ 21.99

4. The line l has the equation $y = \frac{1}{4}x - 11$.

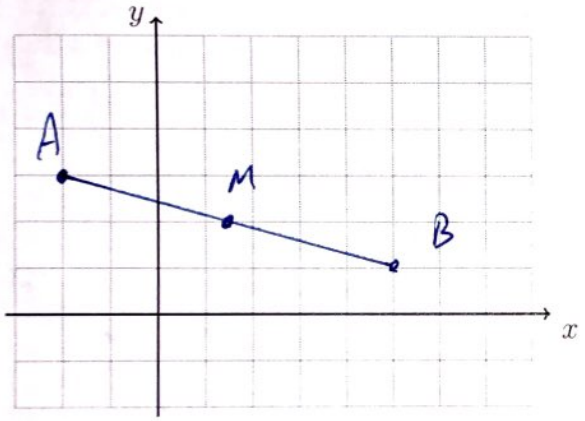
   (a) What is the slope of the line k, given $k \parallel l$?

   $\frac{1}{4}$

   (b) What is the slope of the line m, given $m \perp l$?

   -4

5. On the graph below, draw $\overline{AB}$, with $A(-2, 3)$ and $B(5, 1)$, labeling the end points. Determine and state the coordinates of the midpoint M of $\overline{AB}$ and mark and label it on the graph.



$M = \left(\frac{-2+5}{2}, \frac{3+1}{2}\right)$

$= \left(\frac{3}{2}, 2\right)$

6. Given $M(2, 6)$ and $N(-3, -6)$, find the length of $\overline{MN}$.

$l = \sqrt{(-3-2)^2 + (-6-6)^2}$

$= \sqrt{25 + 144}$

$= \sqrt{169} = 13$

7. A translation maps $A(3, 11) \to A'(-2, 3)$. What is the image of $B(0, 7)$ under the same translation?

$T(-5, -8)$

$B' = (-5, -1)$