

Name: Key Date: _____

Equations of Parallel and Perpendicular Lines Homework

A. Determine whether the lines are parallel, perpendicular, or neither given the equations.

1) $6x - 12y = 24;$ $-12y = -6x + 24$ $y = \frac{1}{2}x - 2$	$4x + 2y = 8$ $2y = -4x + 8$ $y = -2x + 4$	<u>Perpendicular</u>
2) $4x + y = 5;$ $y = -4x + 5$	$3x + 12y = -6$ $12y = -3x - 6$ $y = -\frac{1}{4}x - \frac{1}{2}$	<u>Neither</u>

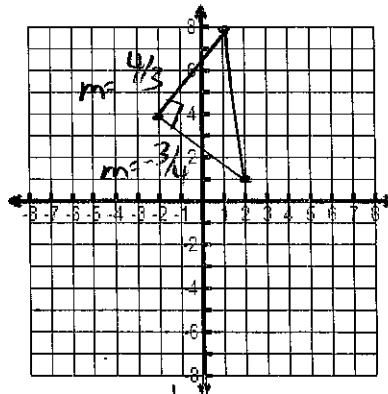
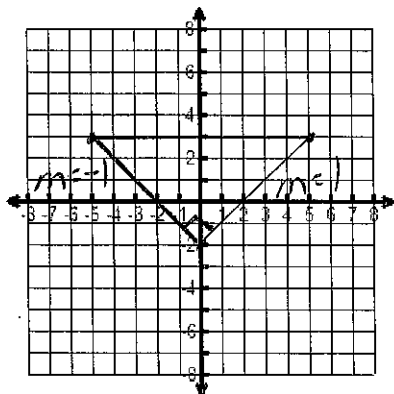
B. Write the equation in slope intercept form of the line parallel and line perpendicular to given line through given point.

	Parallel	Perpendicular
3) $y = 4x + 7$ through $(-2, -9)$	$y = 4x - 1$ $-9 = 4(-2) + b$ $-9 = -8 + b$ $b = -1$	$y = -\frac{1}{4}x - \frac{19}{2}$ $-9 = -\frac{1}{4}(-2) + b$ $-9 = \frac{1}{2} + b$ $b = -\frac{19}{2}$
4) $2x - 5y = 10$ through $(3, -7)$	$y = \frac{2}{5}x - \frac{41}{5}$ $-7 = \frac{2}{5}(3) + b$ $-7 = \frac{6}{5} + b$ $b = -\frac{41}{5}$	$y = -\frac{5}{2}x + \frac{1}{2}$ $-7 = -\frac{5}{2}(3) + b$ $-7 = -\frac{15}{2} + b$ $b = \frac{1}{2}$

C. State whether the 3 points form a right triangle. If so, which angle is the right angle?

5) A(-5, 3) B(0, -2) C(5, 3)

6) A(-2, 4) B(2, 1) C(1, 8)



Slopes are negative reciprocals!
 So, yes!