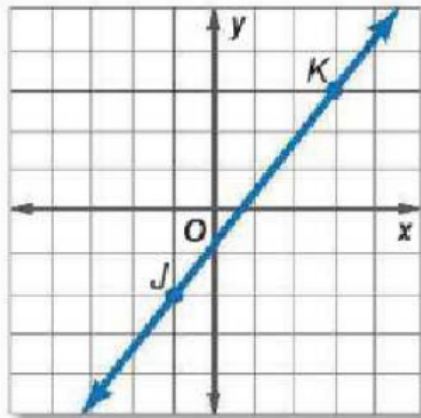


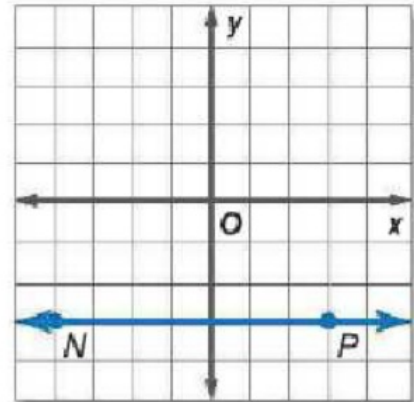
Definition	Picture
Slope:	
Rate of Change:	
Parallel Lines: Lines that have the exact same slope and different y-intercepts	
Skew Lines:	
Perpendicular Lines: Lines with opposite reciprocal slopes.	

Ex. 1: Find the slope of each line.

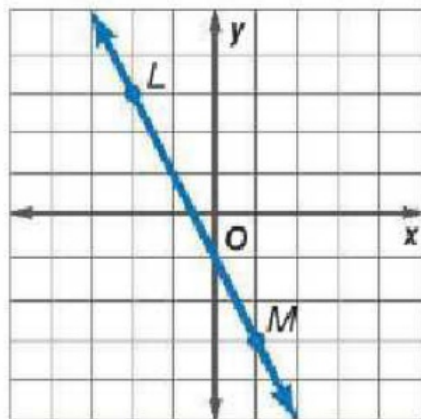
a)



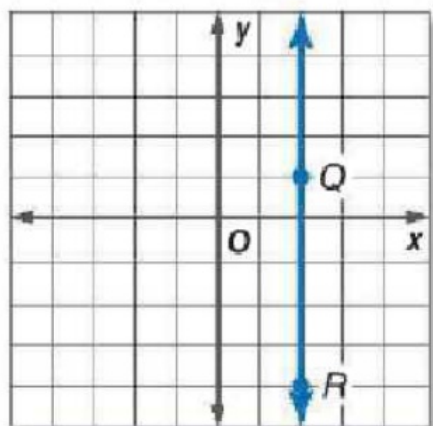
c)



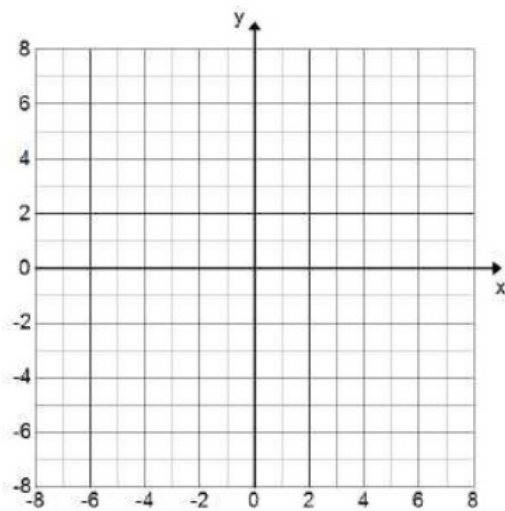
b)



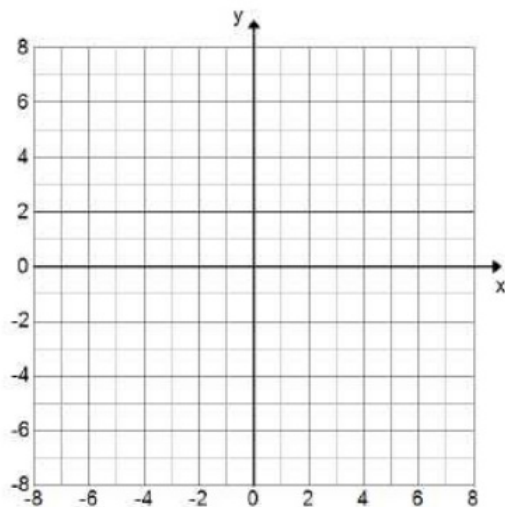
d)



Ex. 2: Determine whether \overrightarrow{AB} and \overrightarrow{CD} are *parallel*, *perpendicular*, or *neither* for $A(1, 1)$, $B(-1, -5)$, $C(3, 2)$, and $D(6, 1)$. Graph each line to verify your answer.



Ex. 3: Graph the line that contains $A(-3, 0)$ and is perpendicular to \overrightarrow{CD} with $C(-2, -3)$ and $D(2, 0)$.



Ex. 4: Determine if the two equations are *parallel*, *perpendicular*, or *neither*.

A. $y = 2x - 4$
 $y = \frac{1}{2}x + 2$

Neither

B. $y = \frac{4}{5}x + 1$

$y = -\frac{4}{5}x$

Neither

C. $y = \frac{2}{3}x + 11$
 $y = -\frac{3}{2}x - 8$

Perpendicular

D. $3x - 2y = 2$
 $-3x + 2y = 8$

Ex. 5: Assume the Line A and B are parallel and Line A and C are perpendicular. Complete the table:

Slope of Line A	Slope of Line B (parallel)	Slope of Line C (perpendicular)
$\frac{2}{3}$	$\frac{2}{3}$	$-\frac{3}{2}$
4	4	$-\frac{1}{4}$
$-\frac{1}{5}$	$-\frac{1}{5}$	5
-3	-3	$\frac{1}{3}$
$-\frac{3}{4}$	$-\frac{3}{4}$	$\frac{4}{3}$
$\frac{1}{2}$	$\frac{1}{2}$	-2
-5	-5	$\frac{1}{5}$
$\frac{3}{4}$	$\frac{3}{4}$	$-\frac{4}{3}$
6	6	$-\frac{1}{6}$
0	0	undefined

