- Name: ______Key____ Date: ______ Period: ______
- **1.** Find the slope of the line passing through the pairs of points and describe the line as rising, falling, horizontal or vertical.

$$\frac{5-1}{4-2} = \frac{4}{2} = 2; \ rising \qquad \qquad \frac{-5-0}{3-(-1)} = -\frac{5}{4}; \ falling$$

c. (2,1), (-3,1)

$$\frac{1-1}{-3-3} = \frac{0}{-5} = 0; \text{ horizontal}$$

$$\frac{-5-2}{1-(-1)} = \frac{-7}{0} = und; \text{ vertical}$$

2. Determine whether the graphs of each pair of equations are *parallel*, *perpendicular* or *neither*.

a. y = 3x+4; y = 3x+7	b. y=-4x+1; 4y=x+3
parallel	perpendicular
c. y=2x-5; y = 5x - 5	d. y=-1/3x+2; y=3x-5
neither	perpendicular

3. Write the equation in slope-intercept form of the line that is *parallel* to the graph of each equation and passes through the given point.

a. y=3x+6; (4,7)	b. y=x-4; (-2,3)
y = 3x + b	y = 1x + b
7 = 3(4) + b	3 = 1(-2) + b
-5 = b	5 = b
5	y = 1x + 5

4. Write the equation in slope-intercept form of the line that is *perpendicular* to the graph of each equation and passes through the given point.

a.
$$y=-5x+1;$$
 (5,-1)
 $y = \frac{1}{5}x + b$
 $-1 = \frac{1}{5}(5) + b$
 $-2 = b$
b. $y=2x-3;$ (6, 3)
 $y = -\frac{1}{2}x + b$
 $3 = -\frac{1}{2}(6) + b$
 $6 = b$
 $y = -\frac{1}{2}x + 6$

5. Are the lines L1 and L2 passing through the given pairs of points parallel, perpendicular or neither?

y = 3x -

