

Slope:

1. Find the slope of a line that passes through the points $(-2, 3)$ and $(4, -9)$
2. Find the slope of a line that passes through the points $(3, 1)$ and $(3, 3)$
3. Find the slope of a line that passes through the points $(2, 4)$, and $(-3, 4)$

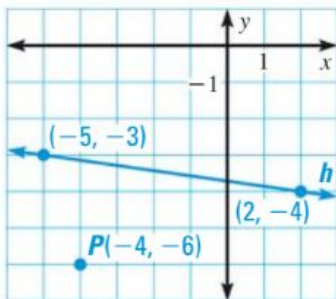
Equations of a Line

- Slope-Intercept Form
- Point-Slope Form
- Standard Form

4. Write an equation for a line that goes through $(3, 5)$ and has slope $m = 2$ in slope intercept form.

5. Write an equation for a line that goes through $(2, -3)$ and $(1, 1)$ in standard form.

6. Write an equation for the line in the coordinate plane below



7. Write an equation for the line that has x-intercept $= 2$ and y-intercept $= -1$ in all three forms.

A	B
$y = \frac{4}{5}x + 6$ vs. $y - 3 = -\frac{4}{5}(x + 2)$	$y = -\frac{1}{2}x - 3$ vs. $y = 2x + 5$
$y = x + 2$ vs. $x + y = 6$	$y = 3x + 4$ vs. $y - 3 = 3(x - 1)$
$y = \frac{1}{3}x - 5$ vs. $3x + y = 2$	$2x + 4y = 3$ vs. $y = -\frac{1}{2}x - 9$

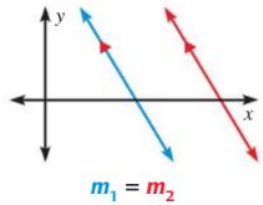
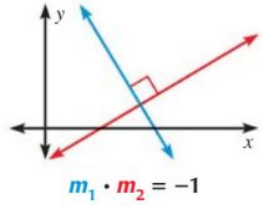
What do you notice?

Categorize:

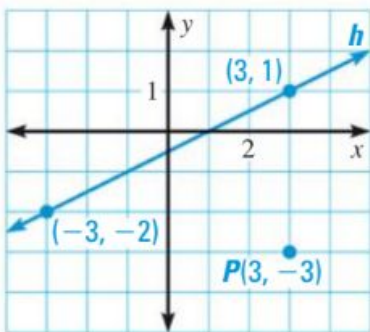
$$y = \frac{3}{4}x + 4 \quad \text{vs.} \quad 3x - 4y = 2$$

$$y = -\frac{1}{2}x + 4 \quad \text{vs.} \quad y - 2 = 2(x - 5)$$

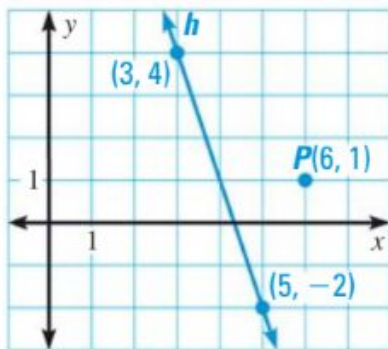
$$5x - y = 9 \quad \text{vs.} \quad y = -\frac{1}{5}x - 10$$

POSTULATES	For Your Notebook
<p>POSTULATE 17 Slopes of Parallel Lines</p> <p>In a coordinate plane, two nonvertical lines are parallel if and only if they have the same slope.</p> <p>Any two vertical lines are parallel.</p>	 <p style="text-align: center;">$m_1 = m_2$</p>
<p>POSTULATE 18 Slopes of Perpendicular Lines</p> <p>In a coordinate plane, two nonvertical lines are perpendicular if and only if the product of their slopes is -1.</p> <p>Horizontal lines are perpendicular to vertical lines.</p>	 <p style="text-align: center;">$m_1 \cdot m_2 = -1$</p>

1. Write an equation parallel to the line h below that goes through the point P :

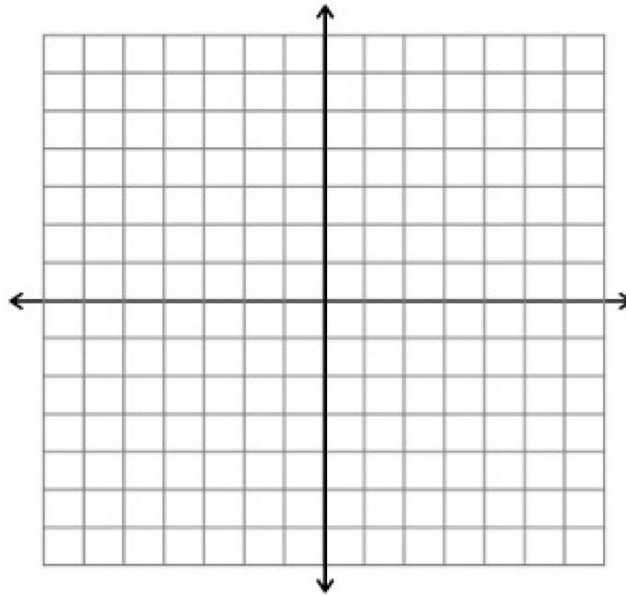


2. Write an equation perpendicular to line h below that goes through the point P :



3. Graph a line with the given description:

Through $(1, 2)$ and parallel to the line $(-2, 4)$ and $(-5, 1)$



4. Write an equation of the line that passes through $(2, 3)$ and is perpendicular to $y = \frac{1}{2}x - 4$

5. Write an equation of the line that passes through the point $(-7, -4)$ and is parallel to $y = 16$

5. Graph the equation $8x + 2y = -10$

