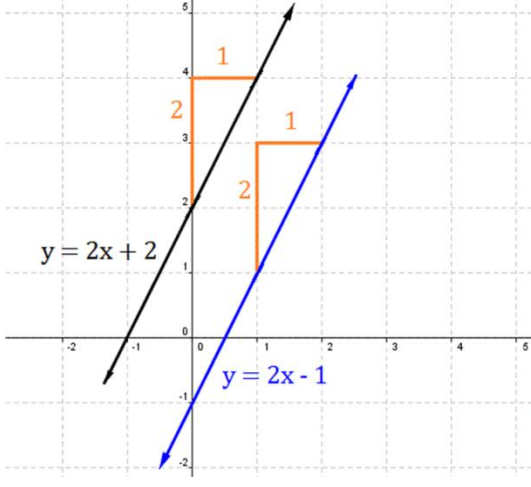
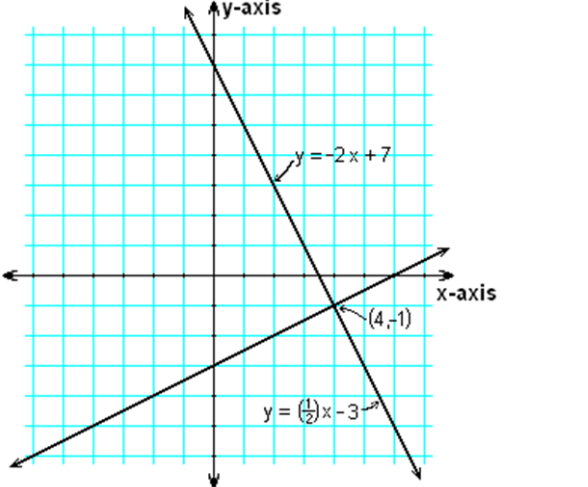


5-6 Parallel and Perpendicular Notes

A. Investigation

Parallel Lines (Never Intersect)	Perpendicular Lines (Intersect at a 90° Angle)
	
<p>Complete: The slopes of parallel lines are _____.</p>	<p>Complete: The slopes of perpendicular lines are _____.</p>

B. Write the equation of the line parallel to the given line with the given y-intercept.

1. $y = -\frac{2}{3}x - 4; b = 6$

$y = -\frac{2}{3}x + 6$

3. $y = \frac{1}{4}x + 9; b = -1$

$y = \frac{1}{4}x - 1$

2. $y = 4; b = 5$

$y = 5$

4. $y = 3x - 10; b = -7$

$y = 3x - 7$

C. Write the equation of the line perpendicular to the given line with the given y-intercept.

1. $y = -\frac{2}{3}x - 4; b = 6$

$y = \frac{3}{2}x + 6$

3. $y = \frac{1}{4}x + 9; b = -1$

$y = -4x - 1$

2. $x = 4; b = 5$

$y = 5$

4. $y = 3x - 10; b = -7$

$y = -\frac{1}{3}x - 7$

D. Challenge

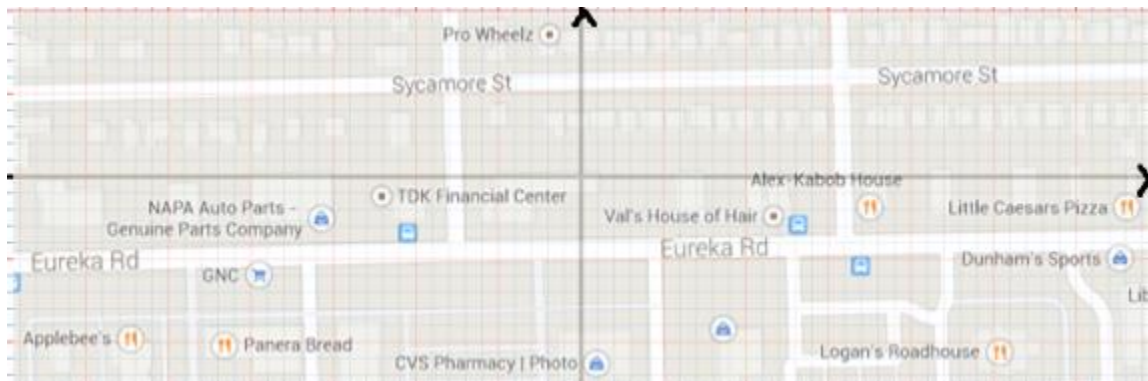
1. Write the equation of the line perpendicular to the line

$$y = -\frac{1}{2}x + 6$$

and passes through point (4, -6).

$$y = 2x - 14$$

2. Using the map and coordinate plane below, find the slopes of Sycamore Street and Eureka Road to decide if they are parallel.



$$\text{Sycamore } (-35, 5) \text{ and } (10, 6); \text{ Slope} = \frac{6-5}{10+35} = \frac{1}{45}$$

$$\text{Eureka } (-25, -5) \text{ and } (30, -4); \text{ Slope} = \frac{-4+5}{30+25} = \frac{1}{55}$$

\therefore not //.