

Notes: Parallel & Perpendicular Lines

1. Laila graphed the linear equation shown on the coordinate plane. Hannah wrote the linear equation $3(2y - 2) = -4x$. Determine if these lines are parallel, perpendicular, or neither. Explain your reasoning.

$$3(2y - 2) = -4x$$

$$6y - 4 = -4x$$

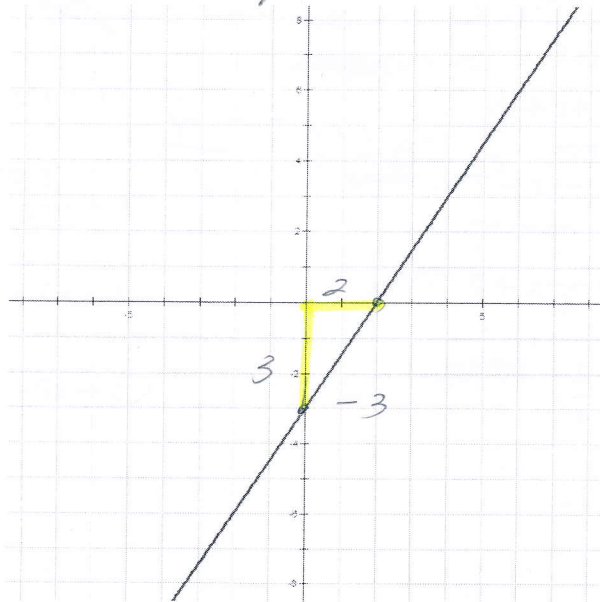
$$\frac{6y}{6} = \frac{-4x + 4}{6} \quad m = -\frac{2}{3}$$

$$y = -\frac{2}{3}x + 1$$

The lines are perpendicular
b/c the slopes of the 2 lines are
negative reciprocals.

$$m = \frac{3}{2}$$

$$b = -3$$



Name: _____

Alg. 1 H

Date: Sept. 17

Glue on page 11

HW: WS "What did the teacher do with Ogar's cheese report?"

2. Which equation below is parallel to the linear equation $y = \frac{-4}{3}x - 7$?

same slope

A $y = \frac{3}{4}x + 9$

B $y = \frac{-3}{4}x + 9$

C $y = \frac{-4}{3}x + 9$

D $y = 4x - 7$

$m = -\frac{4}{3}$

3. Which equation below is parallel to the linear equation $y = -4x + 3$?

same slope

A $y = 4x + 3$

B $y = -4x - 7$

C $y = \frac{-1}{4}x + 7$

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

$m = -\frac{4}{1}$

4. Which equation below is perpendicular to the linear equation $y = \frac{2}{3}x - 4$?

slopes are negative reciprocals

A $y = \frac{3}{2}x - 5$

B $y = \frac{-3}{2}x - 5$

C $y = \frac{2}{3}x - 4$

D $y = \frac{-2}{3}x - 7$

$m = \frac{2}{3} \rightarrow \frac{1}{\frac{1}{2}} \rightarrow m = -\frac{3}{2}$

5. Which equation below is perpendicular to the linear equation $y = -5x - 2$?

slopes are negative reciprocals

A $y = \frac{1}{5}x + 18$

B $y = \frac{-1}{5}x + 10$

C $y = -5x + 4$

D $y = -5x - 2$

$m = -\frac{5}{1} \rightarrow \frac{1}{\frac{1}{-5}} \rightarrow m = \frac{1}{5}$