Alg1

January 30, 2012

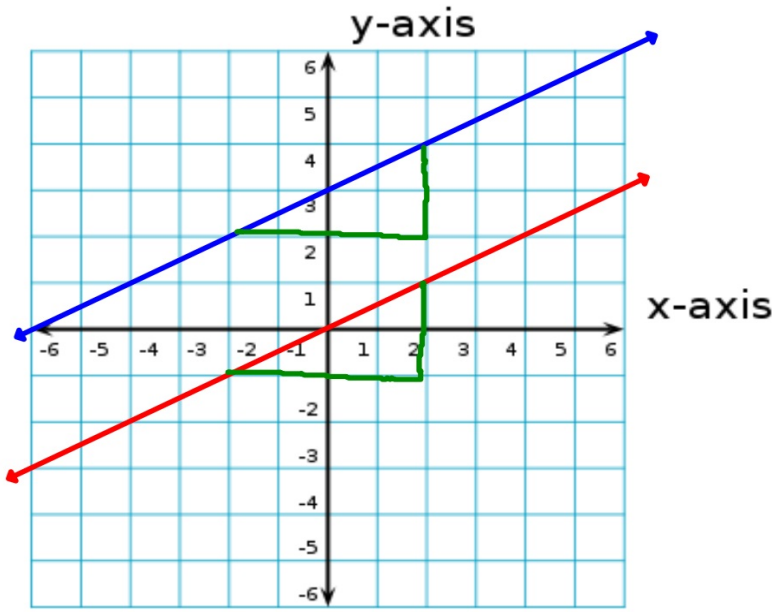
Anything to correct?

1/30 - Parallel and Perpendicular Lines

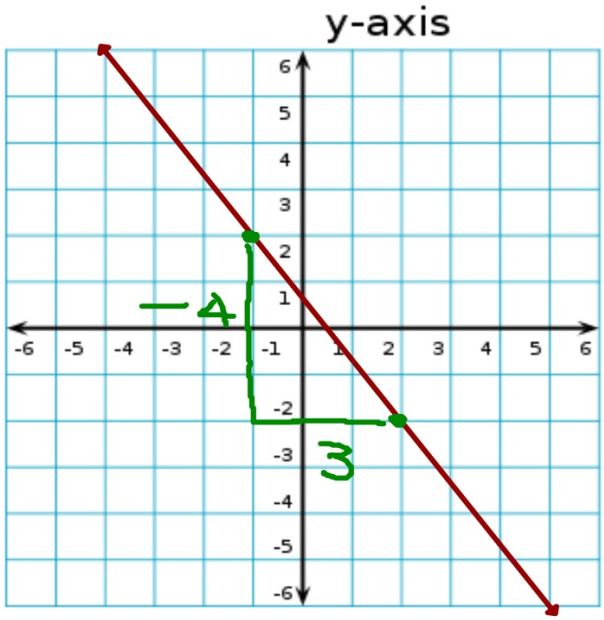
Parallel lines:

never cross

have the same slope



Find the slope of a line parallel to the given line.



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

Find the slope of a line parallel to the given line.

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

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

solve for y first!

$$3x - 4y = 6$$

$-3x \quad -3x$

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

$y = \frac{3}{4}x - \frac{6}{4}$

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

Perpendicular Lines:

lines that intersect at 90° angles
right angle

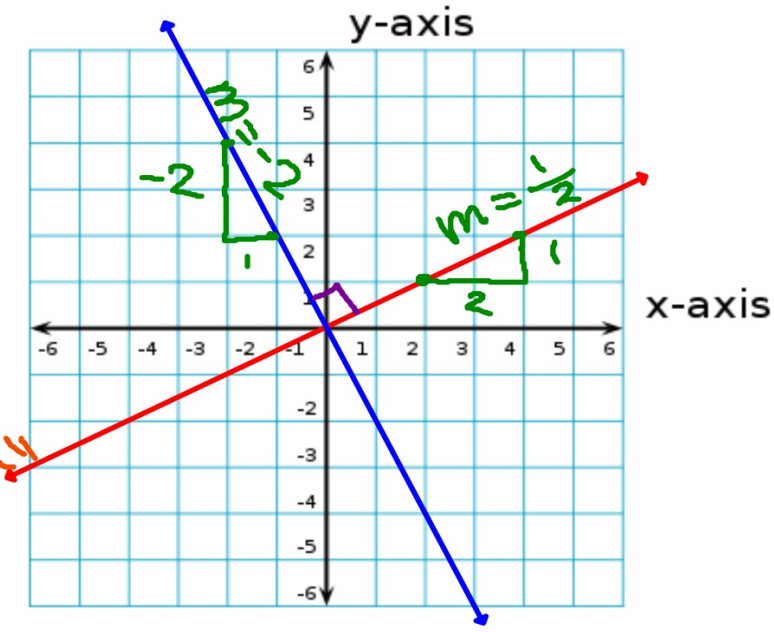
slopes are "negative reciprocals"

$m = \frac{1}{2}$

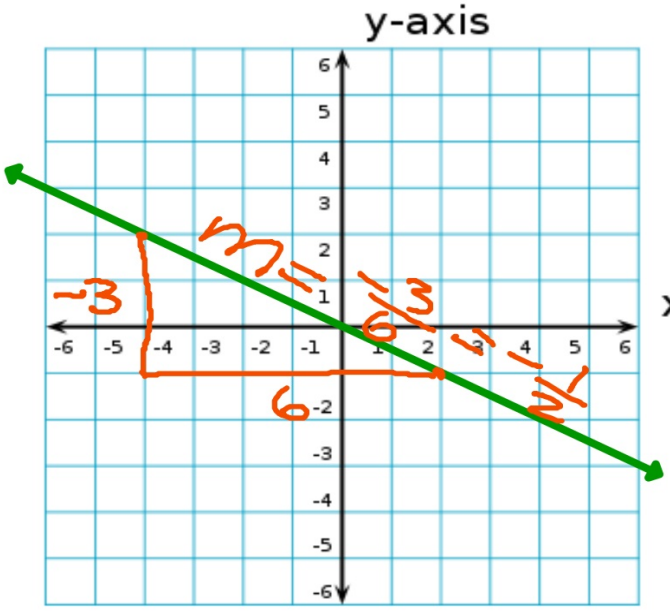
$m_{\perp} = -\frac{2}{1} = 2$

$\perp$ "perpendicular"

$\parallel$ "parallel"



Find the slope of a line perpendicular to the given line.



$m_{\perp} = +\frac{2}{1}$

$= 2$

Find the slope of a line perpendicular to the given line.

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

m

$m_{\perp} = \frac{-3}{2}$

$y = -4x + 1$

$= m$

$m_{\perp} = \frac{1}{4}$

Flip it over and change the sign

Find the slope of a line perpendicular to the given line.

solve for y first!

$2x + 4y = 10$

$-2x \quad -2x$

$\frac{4y}{4} = \frac{-2x + 10}{4}$

$y = -\frac{1}{2}x + \frac{10}{4}$

$m_{\perp} = 2$

$3x - 4y = 6$

$-3x \quad -3x$

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

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

$m_{\perp} = -\frac{4}{3}$

HOMEWORK

Yellow Linear Equations WS 6

Due Today?