

Be sure to use PROPER mathematical notation and show some steps. Use back of page if needed.

1. Given the two points  $(-3, 6)$  and  $(3, -2)$

3 a. Using algebra, Determine the whole equation of the line in slope-intercept form that passes through the points

$$m = \frac{y_2 - y_1}{x_2 - x_1}$$

$$= \frac{-2 - 6}{3 - (-3)}$$

$$= \frac{-8}{3+3}$$

$$= -\frac{8}{6} = -\frac{4}{3}$$

$$m = -\frac{4}{3} \quad (-3, 6)$$

$$m = ?$$

$$(x, y)$$

$$y - y_1 = m(x - x_1)$$

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

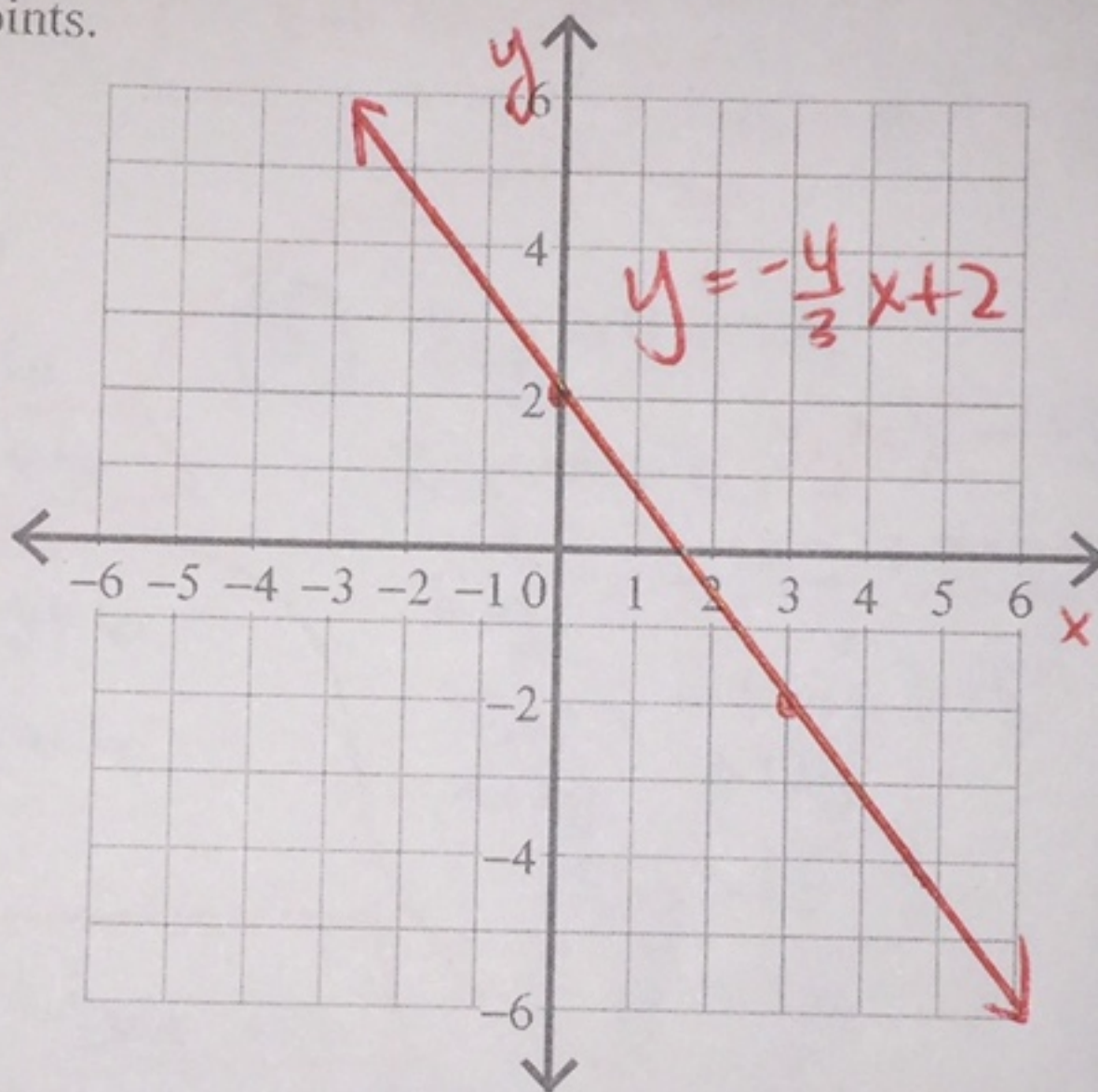
$$y - 6 = -\frac{4}{3}(x + 3)$$

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

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

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

- 3 b. Accurately graph the equation found in part a. above by using the slope and y intercept, or plotting points.



- 4 2. Graph the following two-variable inequality. Shade the graph in the appropriate area to represent the solution. Pick a test point to check answer if you have time!

$$4x + 3y < 12$$

$$3y < -4x + 12$$

$$y < -\frac{4}{3}x + \frac{12}{3}$$

$$y < -\frac{4}{3}x + 4$$

Shade BELOW  
DASHED line

