

8.5) Methods of Graphing | May 20, 2016

Recap:

① Graph using intercepts.

$$2x - 3y = 12$$

y-int, $x = 0$

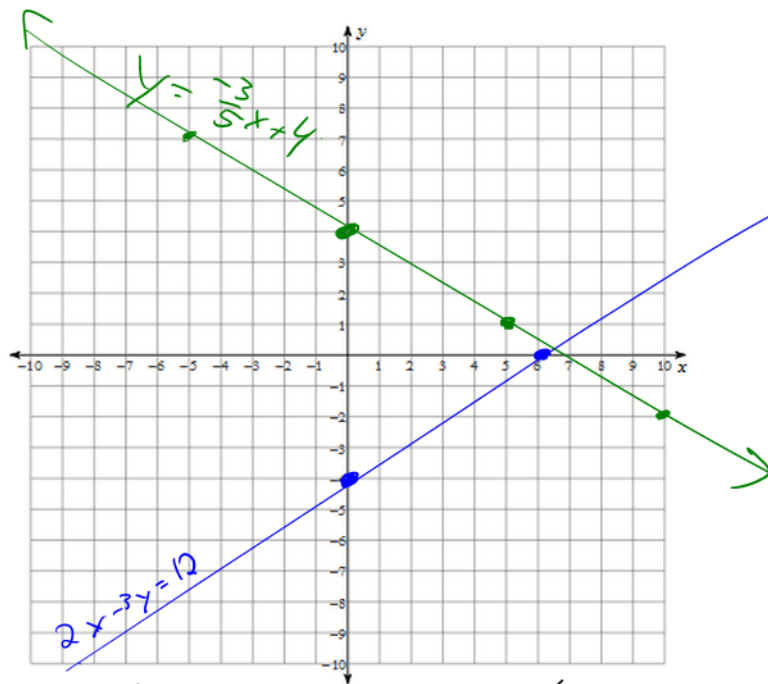
$$\cancel{2(0)} - \frac{3y}{-3} = \frac{12}{-3}$$

$$y = -4 \quad \therefore (0, -4)$$

x-int, $y = 0$

$$\frac{2x}{2} - 3(\cancel{0}) = \frac{12}{2}$$

$$x = 6 \quad \therefore (6, 0)$$



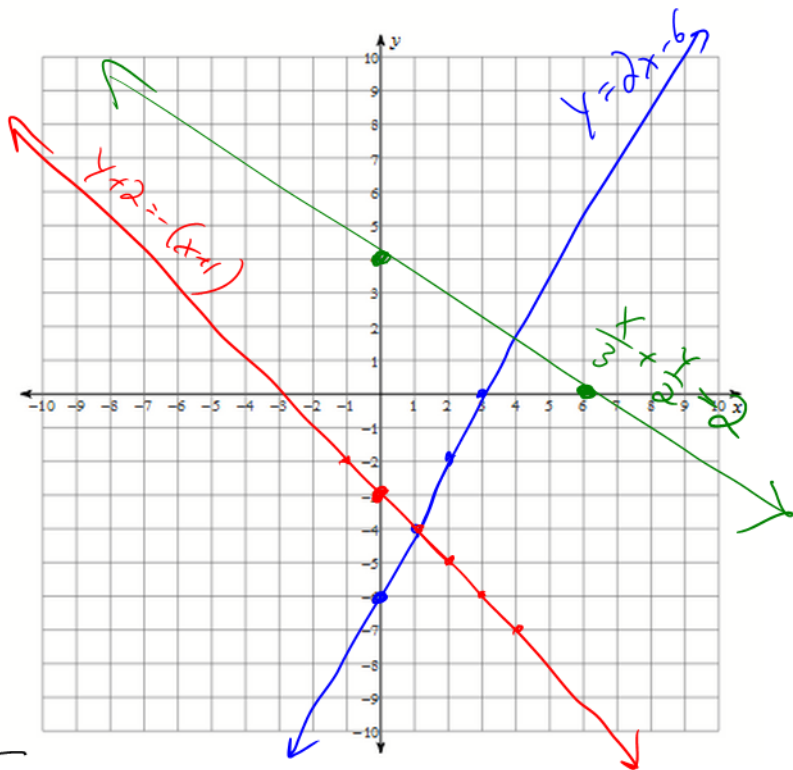
② use slope and y-intercept

$$y = -\frac{3}{5}x + 4$$

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17. $y = 2(x - 3)$

$$y = \underset{\substack{\uparrow \\ \text{slope}}}{2}x - \underset{\substack{\uparrow \\ \text{y-int}}}{6}$$



20. $y + 2 = -(x + 1)$

$$y + 2^{-2} = -x - 1^{-2}$$

$$y = \underset{\substack{\uparrow \\ \text{slope}}}{-\frac{1}{1}}x - \underset{\substack{\uparrow \\ \text{y-int}}}{3}$$

21. $\frac{x}{3} + \frac{y}{2} = 2$

x-int, $y = 0$

$$\cancel{(3)}\frac{x}{3} + \frac{\cancel{2}}{2} = 2(\cancel{3})$$

$$x = 6 \quad \therefore (6, 0)$$

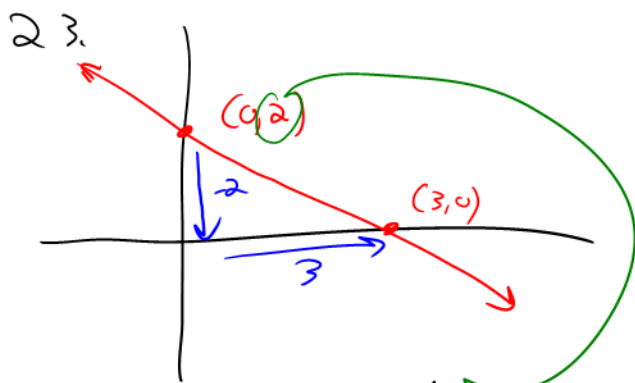
y-int, $x = 0$

$$\frac{\cancel{0}}{\cancel{3}} + \frac{y}{2} = 2$$

$$y = 4$$

$$\therefore (0, 4)$$

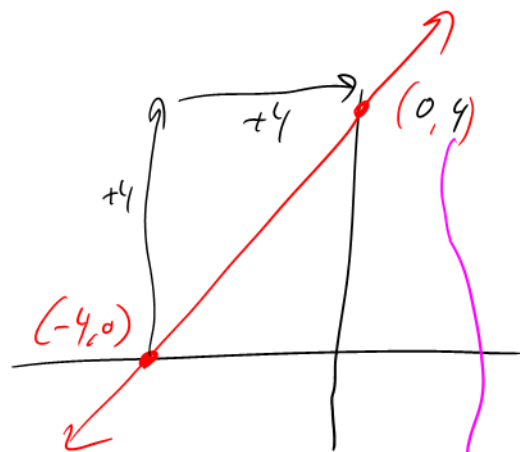
Write the equation of the lines:



$$y = mx + b$$

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

27.



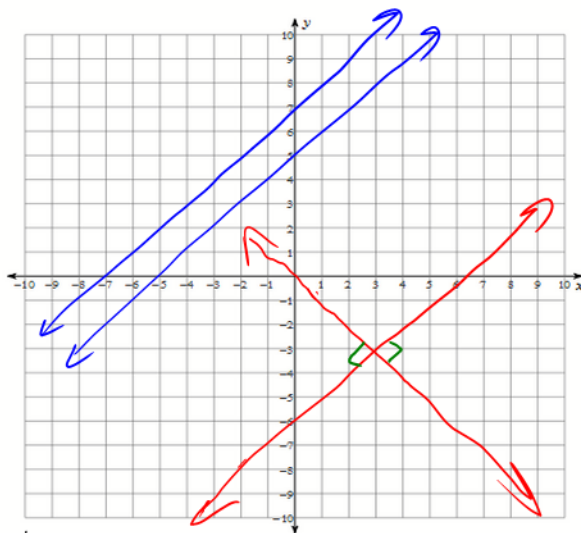
$$y = mx + b$$

$$y = 1x + 4$$

8.6) Parallel and Perpendicular Lines | pg 437

Parallel Lines

- parallel lines never cross/intersect
- the slopes are equal



ex: $m = \frac{4}{7}$

$$m_{\perp} = -\frac{7}{4}$$

Perpendicular Lines

- cross at 90°
- the symbol for perpendicular is $\perp$

If $m = \frac{a}{b}$

then, $m_{\perp} = -\frac{b}{a}$

1. Are the Parallel, perpendicular, or neither?

$$m_1 = \frac{2}{3} \quad m_2 = \frac{3}{2}$$

Neither!

3. $m_1 = -\frac{3}{1} \quad m_2 = \frac{1}{3} \quad \perp !$

$$6. m_1 = 2 \quad m_2 = -2 \quad \text{Neither!}$$

$$7. m_1 = \frac{20 \div 5}{25 \div 5} = \frac{4}{5} \quad m_2 = \frac{4}{5} \quad \text{Parallel!!}$$

$$11. m = 3 \quad m_{\perp} = -\frac{1}{3} \quad \left\{ \quad m = -\frac{2}{5} \quad m_{\perp} = \frac{5}{2} \right.$$

$$16. m = \text{undefined} \quad m_{\perp} = 0$$

State the slope of a line parallel and perpendicular to:

$$17. y = 2x - 4 \quad m_{\parallel} = 2 \quad m_{\perp} = -\frac{1}{2}$$

$m = 2$

You do # 18, 20, 23, 26.

Home work: 8.5 pg 432 # 18 - 34

8.6 pg 437 # 2 - 24