

8.5) Methods of Graphing (May 24, 2016)

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

x-int, $y=0$

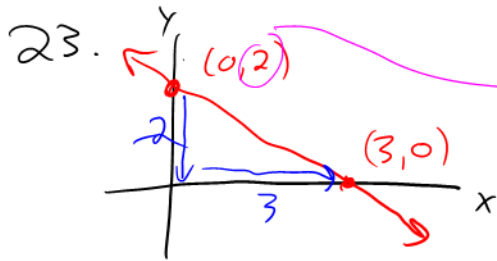
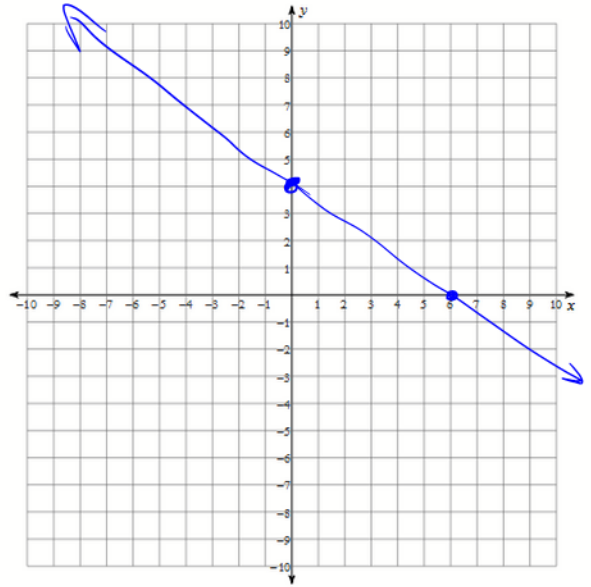
$(3) \frac{x}{3} + \frac{0}{2} = 2 (3)$

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

y-int, $x=0$

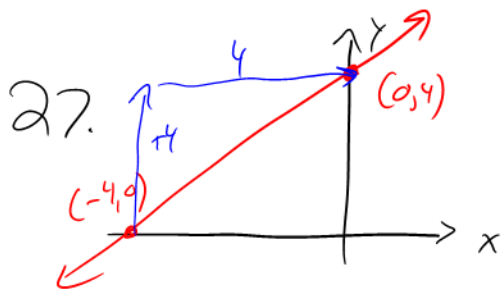
$\frac{0}{3} + (2) \frac{y}{2} = 2 (2)$

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



$y = mx + b$

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



$y = mx + b$

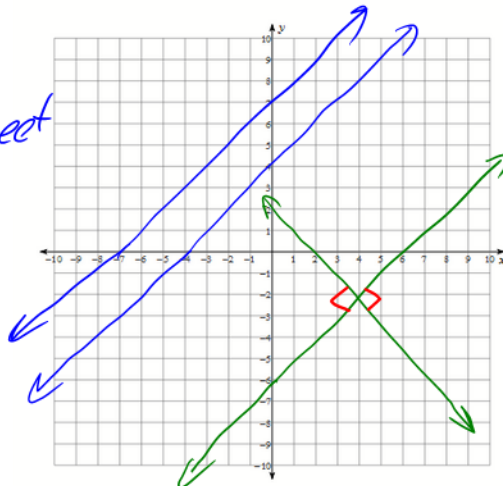
$y = x + 4$

8.6) Parallel and Perpendicular Lines

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Parallel Lines:

- lines that never meet or intersect
- the slopes are equal



Perpendicular Lines:

- they cross at a right angle
- ↳ 90°

If $m = \frac{a}{b}$ then, $m_{\perp} = -\frac{b}{a}$ } negative reciprocal

Are these slopes parallel, perpendicular, or neither?

1. $m_1 = \frac{2}{3}$ $m_2 = \frac{3}{2}$ Neither!

3. $m_1 = -\frac{3}{1}$ $m_2 = \frac{1}{3}$ Perpendicular.

6. $m_1 = 2$ $m_2 = -2$ Neither (no reciprocal)

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

Given the slope, determine the $m_{\perp}$

11. $m = 3$, $m_{\perp} = -\frac{1}{3}$

16. $m = \text{undefined}$

$m_{\perp} = 0$

State the slope of the given line, then the parallel slope and perpendicular slope.

17. $y = 2x - 4$	{	18. $y = -x - 2$
$m = 2$		$m = -1$
$m_{\parallel} = 2$		$m_{\parallel} = -1$
$m_{\perp} = -\frac{1}{2}$		$m_{\perp} = 1$

20. $y = \frac{-2}{7}x$

$m = \frac{-2}{7}$

$m_{\parallel} = \frac{-2}{7}$

$m_{\perp} = \frac{7}{2}$

23. $2x - y = 8$

$2x - 8 = y$

$m = 2$

$m_{\parallel} = 2$

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

27. Identify whether the lines are parallel, perpendicular or neither.

$$\textcircled{1} x - y + 1 = 0$$

$$x + 1 = y$$

$$\therefore m = 1$$

These lines are perpendicular.

$$\textcircled{2} 4x + 4y + 1 = 0$$

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

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

$$\therefore m = -1$$

You do: 26, 28

Homework: 8.5 # 29 to 34

8.6 # 2 to 30

