

MORE LINES

Linear Function FACTS To Know

Slope-intercept

$$y = mx + b$$

Point-Slope

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

Standard Form

$$Ax + By = C$$

No fractions

A is +

$$m = -\frac{A}{B}$$

$$4x - 3y = 8$$

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

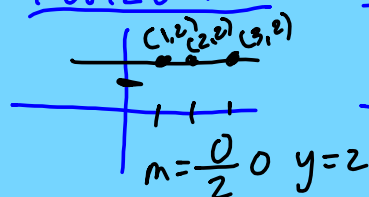
* Find the eq. of a line given:

- graph
- 2 points
- parallel or perp. to another line

* Graph lines

- * by hand
- * by calculator

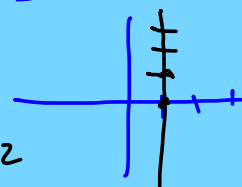
Horizontal



$$m = 0$$

$$y = \#$$

Vertical



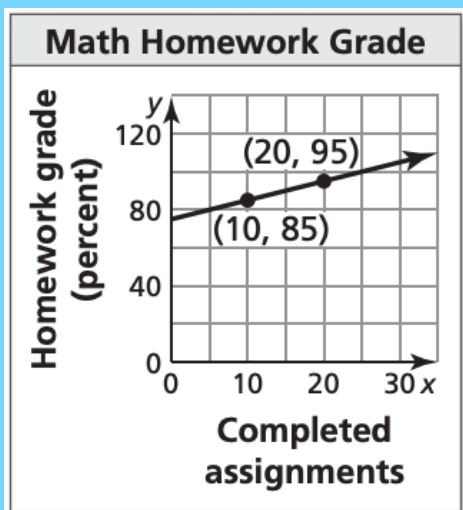
$$m = \frac{\#}{0}$$

$$m = \text{undef.}$$

$$x = \#$$

Parallel
Same slope

Perpendicular
opposite reciprocal
 $m = -\frac{2}{3}$ $\perp m = \frac{3}{2}$



Find the equation of the line shown on the graph.

Point-Slope

$$y - y_1 = m(x - x_1) \quad m = \frac{95 - 85}{20 - 10}$$

$$(10, 85)$$

$$y - 85 = 1(x - 10)$$

$$m = \frac{10}{10} = 1$$

$$y - 85 = x - 10$$

$$y = x + 75$$

SHORTCUT!

$$(3, -7) \quad (8, -7) \quad y = -7$$

$$(5, 2) \quad (5, -135,000) \quad x = 5$$

Write the eq. of the line which passes through $(-2, 8)$
and is perpendicular to the line $2x - 3y = 7$.

$$m = -\frac{A}{B} = \frac{+2}{+3}$$

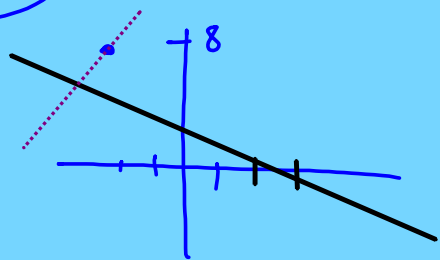
$$\perp m = -\frac{3}{2} \quad (-2, 8)$$

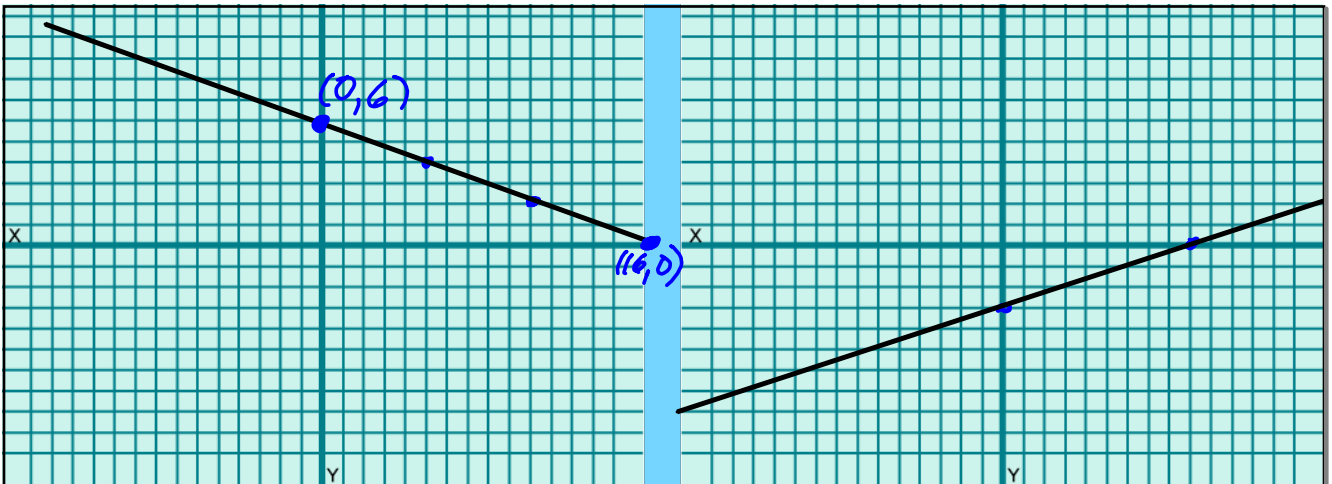
$$y - y_1 = m(x - x_1)$$

$$y - 8 = -\frac{3}{2}(x + 2)$$

$$y - 8 = -\frac{3}{2}x + 3$$

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





Graph $y = -\frac{2}{5}x + 6$

$2x - 6y = 18$
 Find x- & y-int.
 x-int: Let $y = 0$
 y-int: Let $x = 0$

My way or
the highway!

x	y
9	0
0	-3

How do you graph on a TI-Nspire?

