

Slope-Intercept Form of the equation of a line

$y = mx + b$ (y is a function of x) where...

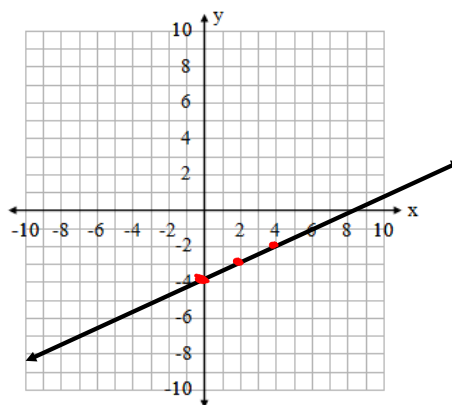
m is the slope ($\frac{\text{Rise}}{\text{Run}} = \frac{\Delta y}{\Delta x}$) and ...

b is the y-intercept (the y-coordinate where it crosses the y-axis)

Examples

a) Graph $y = \frac{1}{2}x - 4$

(1) slope $m = \frac{1}{2} \frac{\Delta y \uparrow}{\Delta x \rightarrow}$
 (2) y-intercept $b = -4$

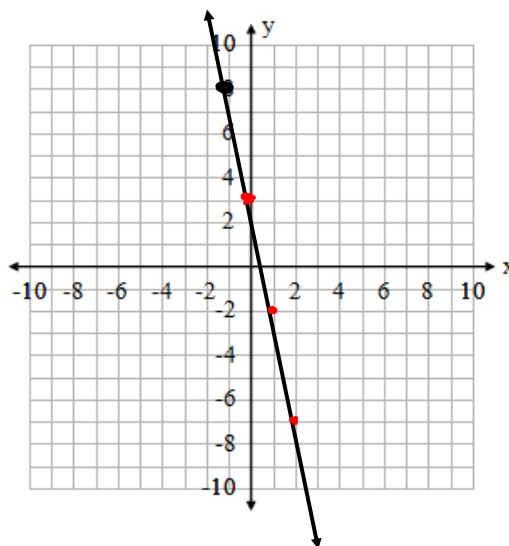


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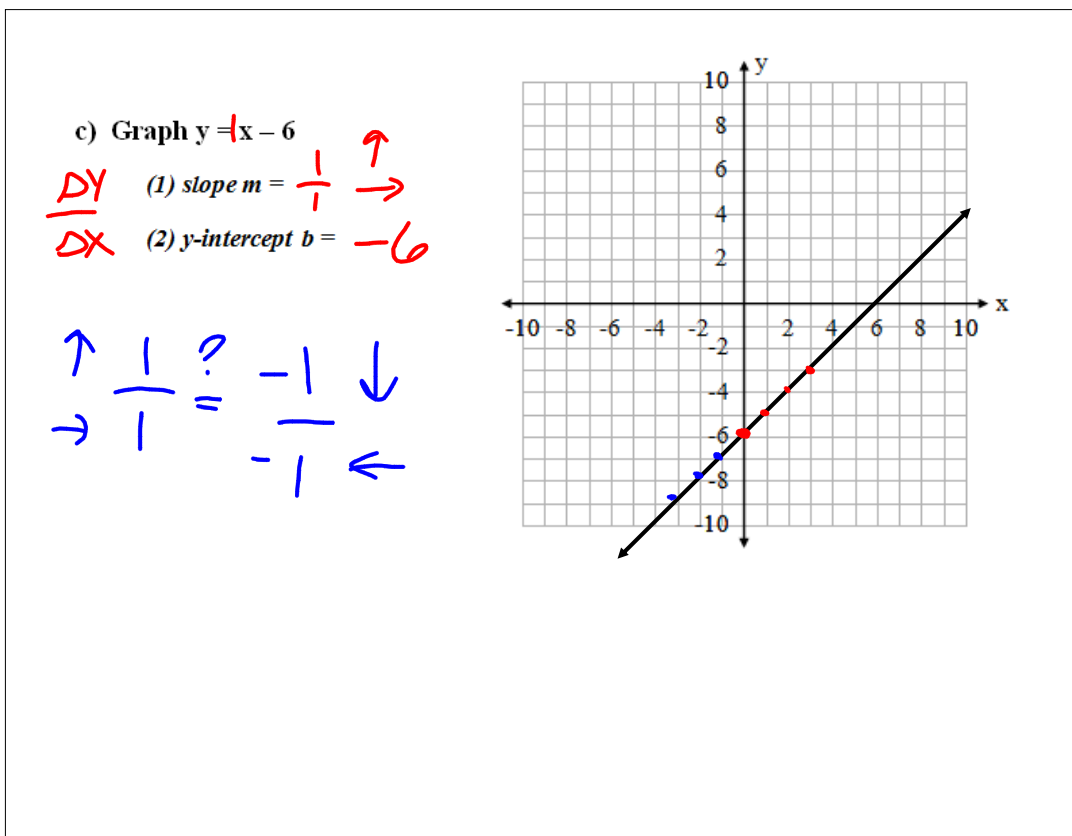
b) Graph $y = -5x + 3$

(1) slope $m = \frac{-5 \downarrow}{1 \rightarrow}$
 (2) y-intercept $b = 3$

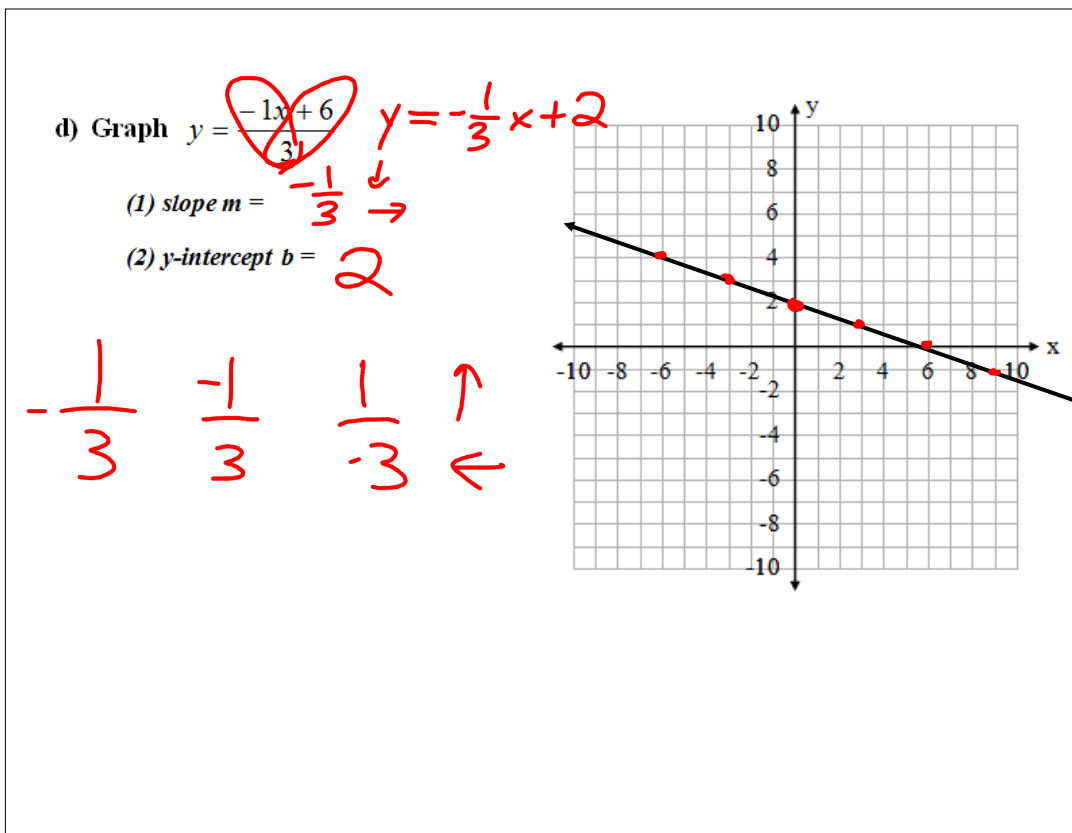
$\frac{-5 \downarrow}{1 \rightarrow} = \frac{5 \uparrow}{-1 \leftarrow}$



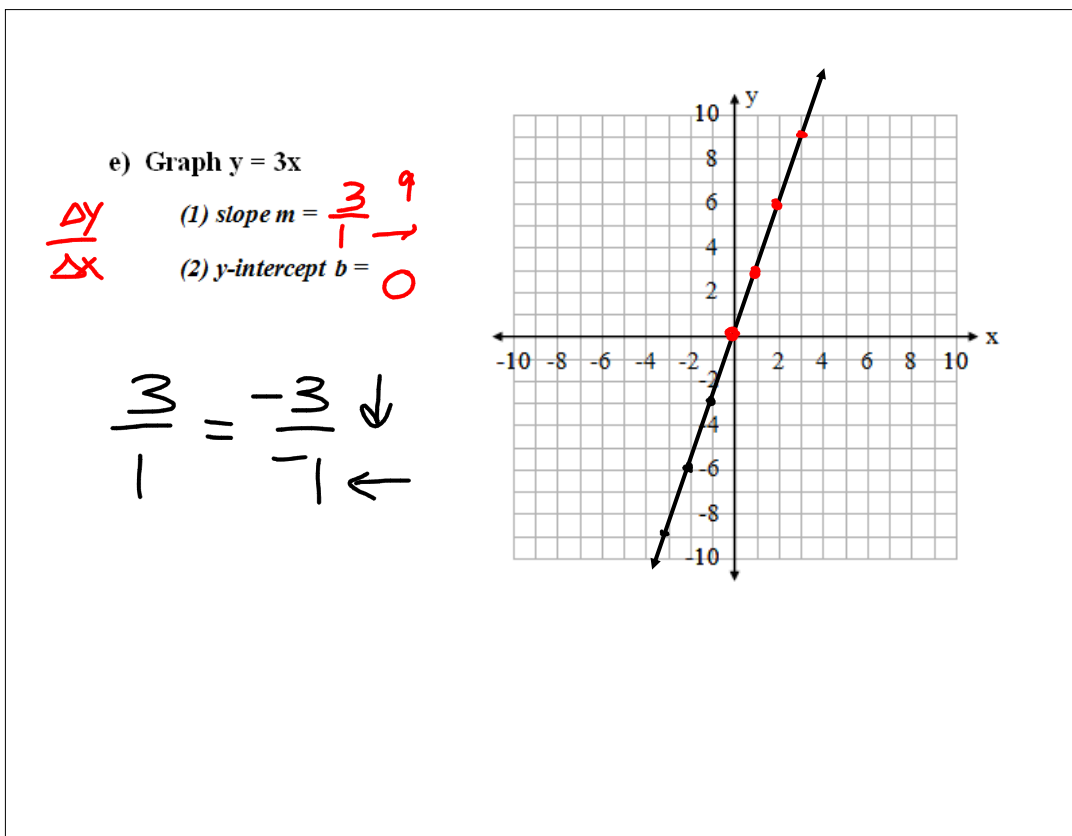
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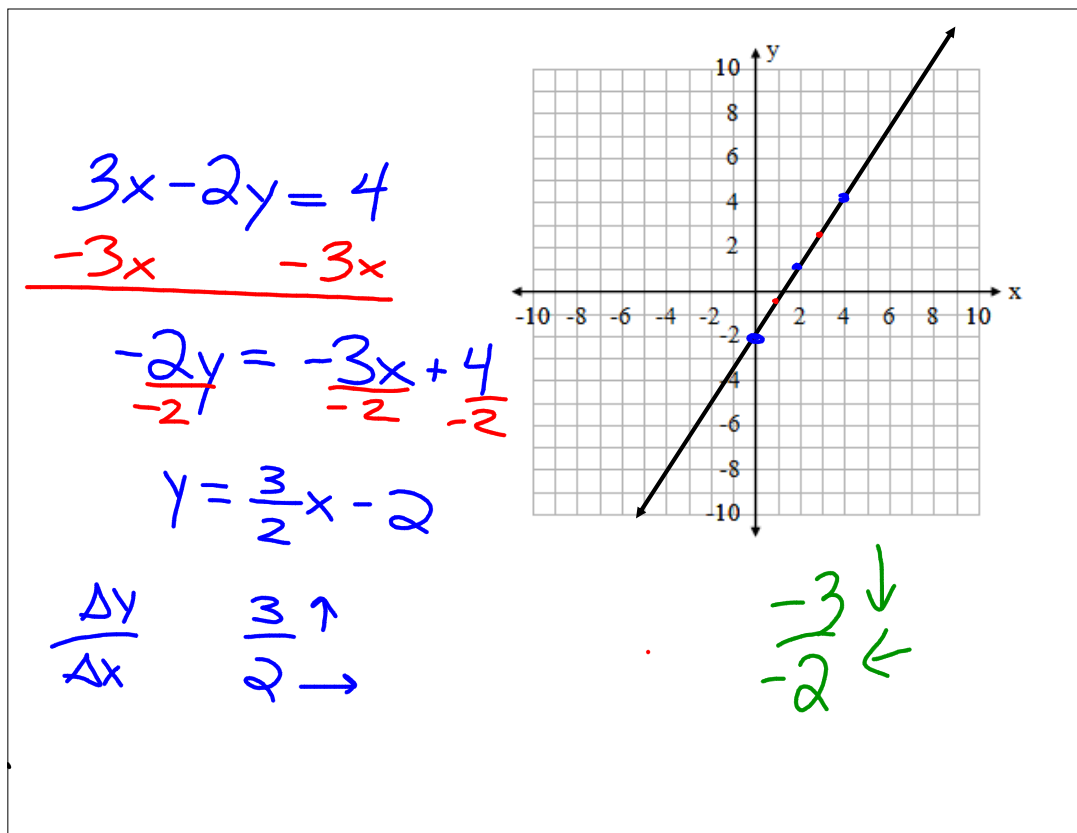
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