Unit 3: Slope-Intercept Form Date:

Day 23: Slope and y=mx + b **#23**

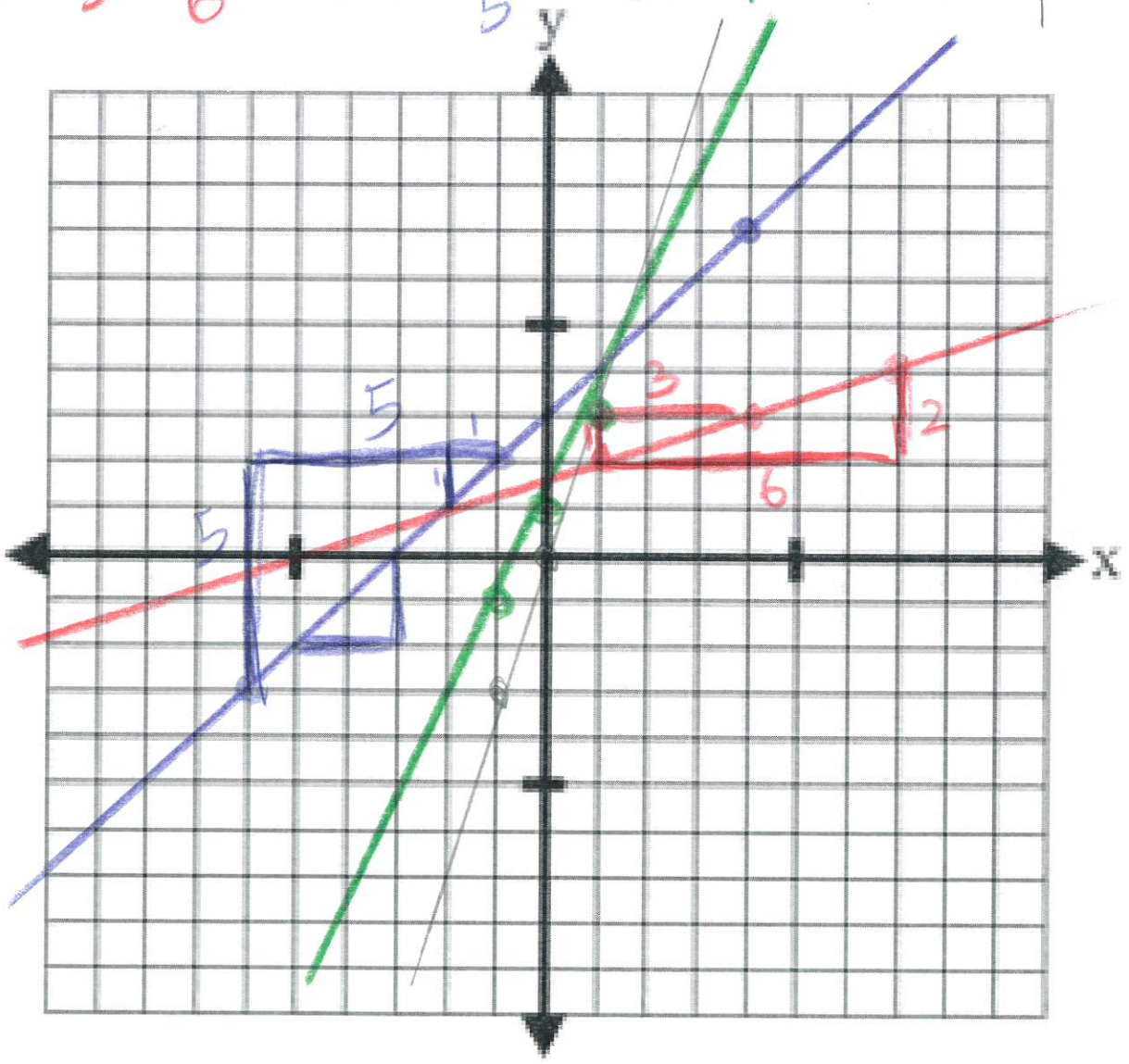
Directions:

1) Graph the points in each set below and connect with a line, then...
2) Find the slope of each line.

Make the line with the indicated color below. (Use a RULER!)

Red:	**Blue:**	**Green:**	**Pencil:**
(1,2) (4,3) (7,4)	(−6,−3)(−1,2) (4,7)	(0,1) (1,3) (−1, −1)	(1,3) (0,0) (−1,−3)

$m = \frac{1}{3} = \frac{2}{6}$ $m = \frac{5}{5} = 1$ $m = \frac{2}{1}$ $m = \frac{3}{1}$



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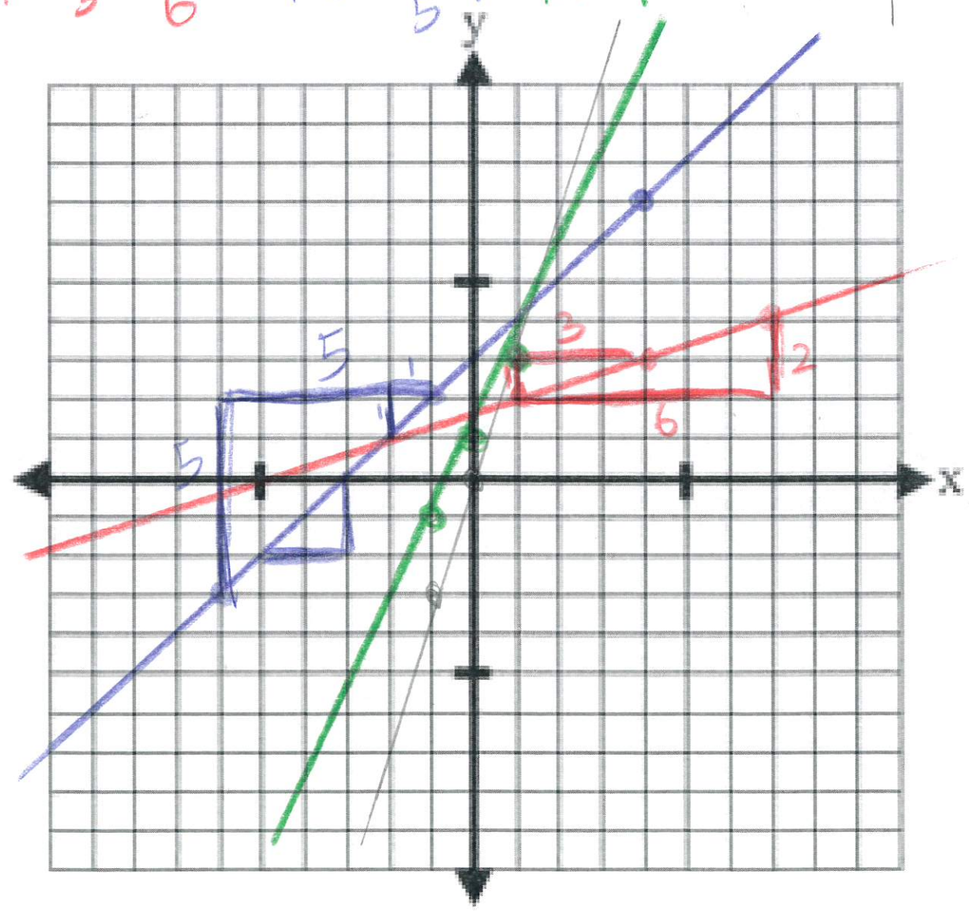


Slope-Intercept Form

Slope-Intercept Form: $y = mx + b$

m = slope b = y-intercept

Steps for Graphing Linear Equations in Slope-Intercept Form

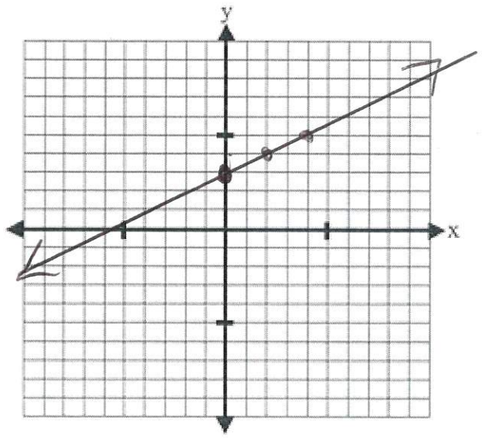
1. Plot the y-intercept.
2. Use slope to plot more points. On a graph, slope is found by $\frac{\text{rise}}{\text{run}}$.
3. Connect the points with a straight line

Examples:

1. $y = \frac{1}{2}x + 3$

slope (m) = $\frac{1}{2}$ ← m (rise)

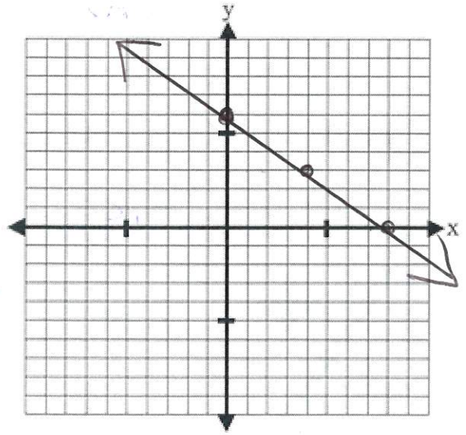
y-int (b) = 3



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

slope (m) = $\frac{-3}{4}$

y-int (b) = 6

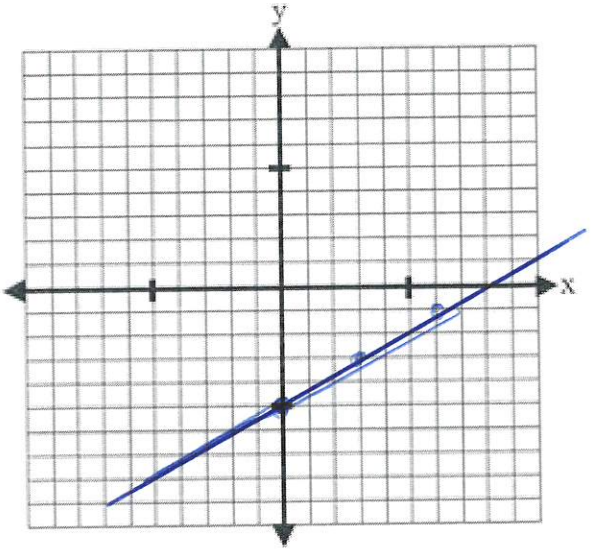


You Try:

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

slope (m) = 2/3

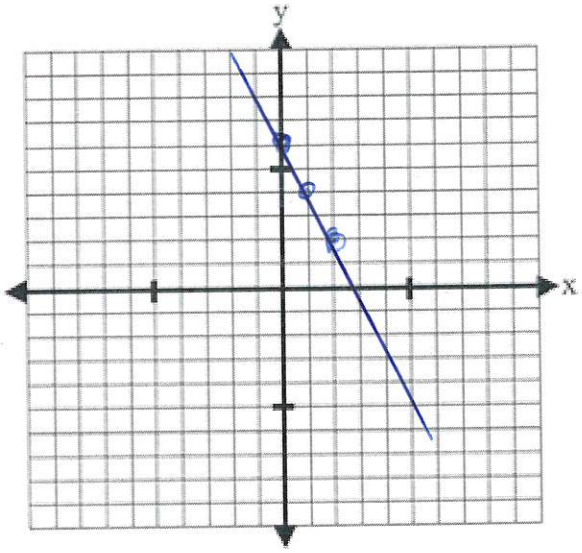
y-int (b) = -5



4. $y = -2x + 6$

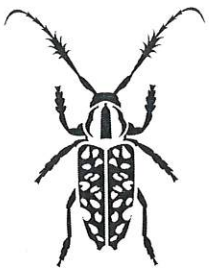
slope (m) = -2

y-int (b) = 6



What to do when slope is a rational number:

rise / run



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What to do when slope is a whole number:

rise / run=one

Ex $-2 = \frac{-2}{1}$

$8 = \frac{8}{1}$

You Try:

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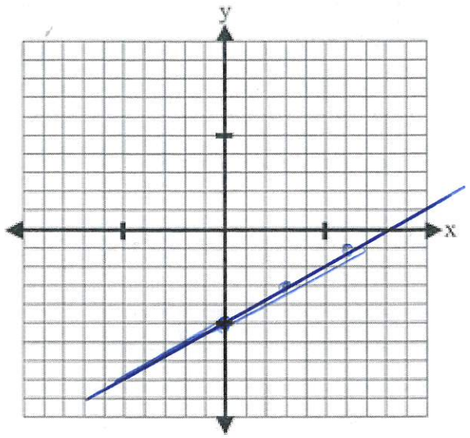

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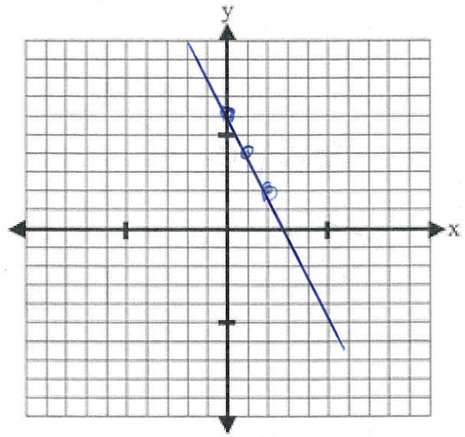

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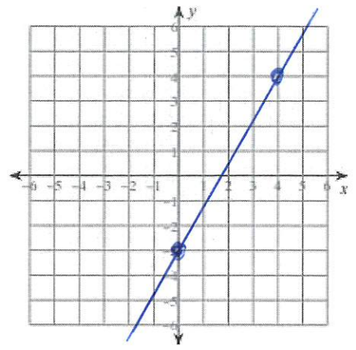
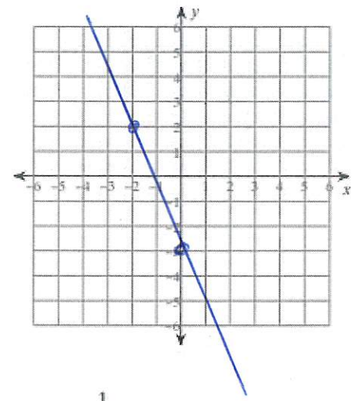
Practice: Graphing SLOPE-INTERCEPT FORM #23b

Graph each line.

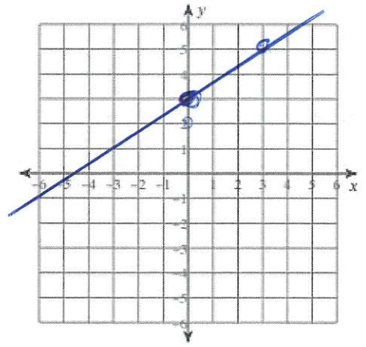
1) $y = \frac{7}{4}x - 3$



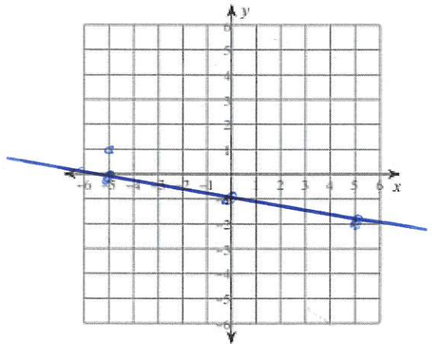
2) $y = -\frac{5}{2}x - 3$

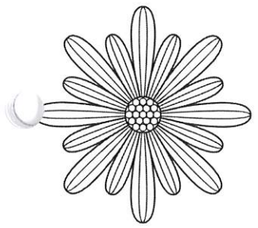


3) $y = \frac{2}{3}x + 3$



4) $y = -\frac{1}{5}x - 1$





eudaimonia

(n.) lit. "human flourishing"; a contented state of being happy and healthy and prosperous

pronunciation | "U-de-'mOn-E-a