

Graphing Linear & Exponential Functions

Date _____

Period _____

1) Graphing a linear equation:

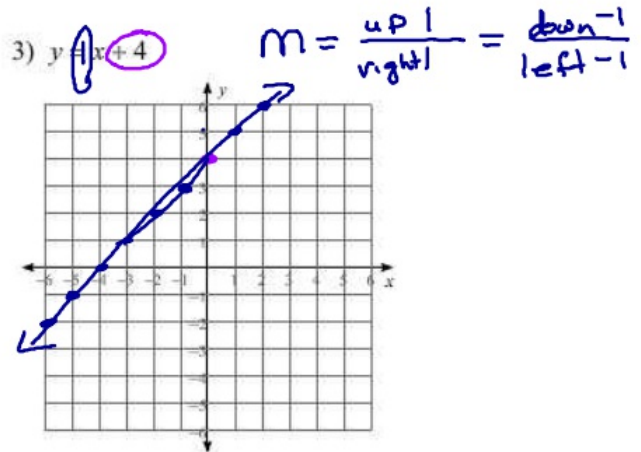
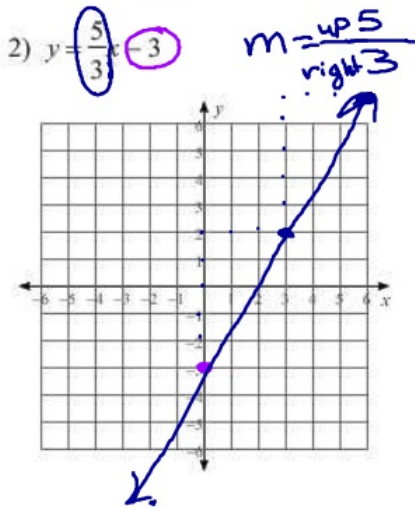
form: $y = mx + b$ where m : slope

\uparrow \uparrow

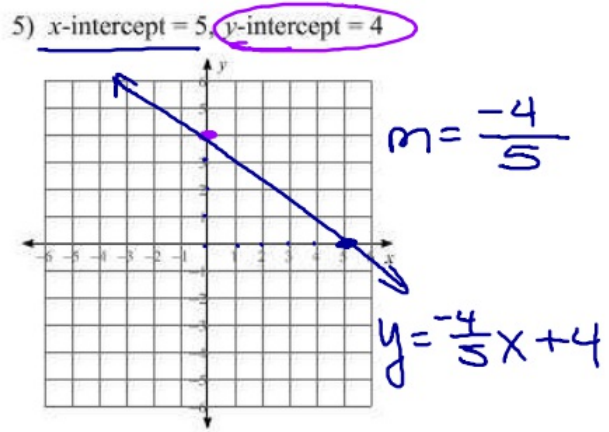
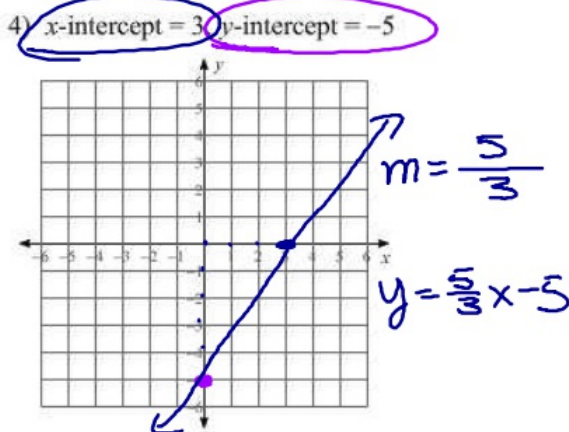
b : y-intercept

$\rightarrow m$: rate of change; $\frac{\Delta y}{\Delta x} = \frac{\text{up down}}{\text{Side side}} = \frac{\text{rise}}{\text{run}}$
 : starting point on the y-axis

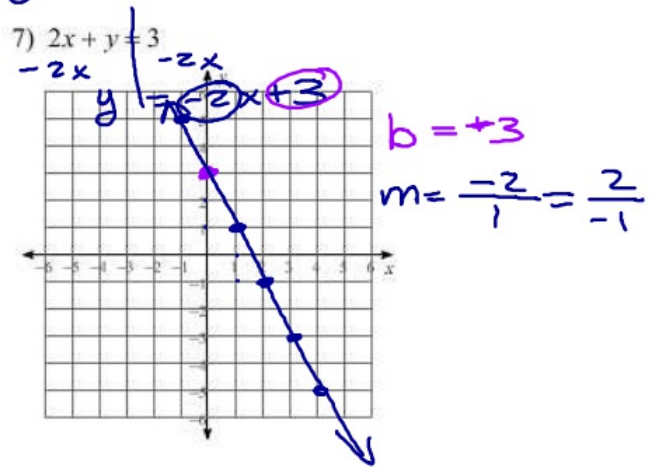
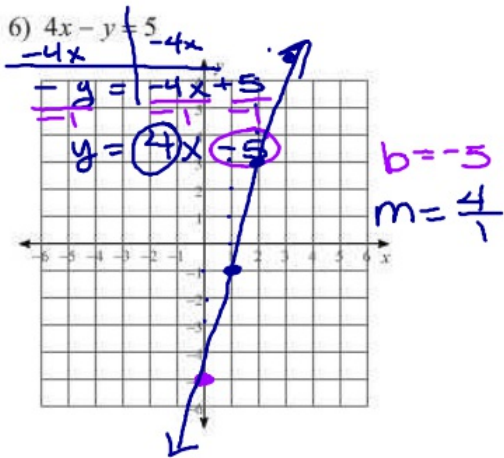
Sketch the graph of each line.



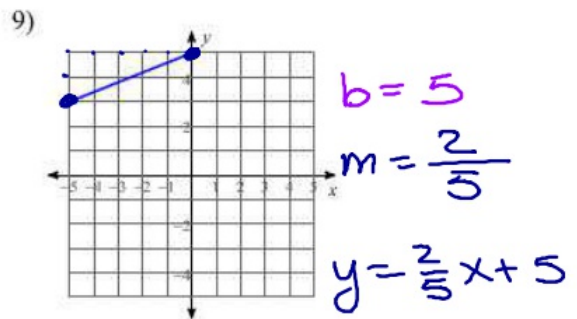
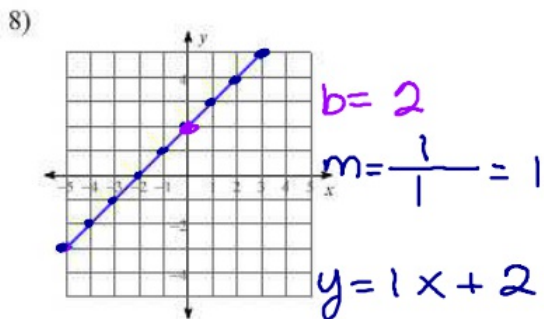
What if I am only given the x-intercept and the y-intercept?



What if the equation is not in slope-intercept form ($y = mx + b$)?



Can you find the slope and y-intercept and write the equation of a line in slope-intercept form ($y = mx + b$)?

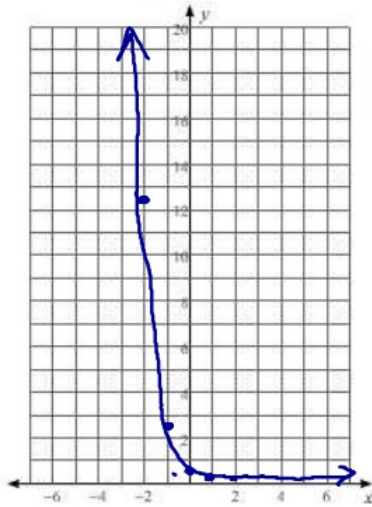


- 10) How about graphing an exponential equation
(HINT: make a table with x-values of -2, -1, 0, 1, 2, 3)

$$f(x) = ab^x \quad \text{Where } \begin{array}{l} \text{a: y-intercept} \\ \text{b: multiplier} \end{array}$$

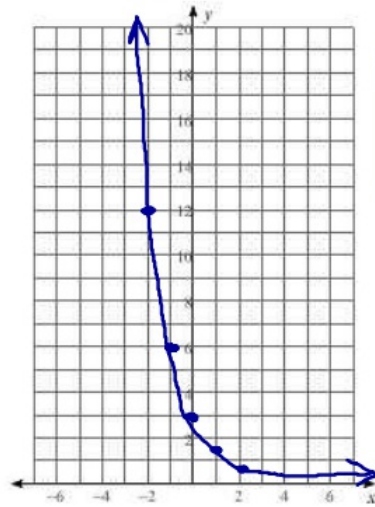
Sketch the graph of each function.

11) $y = \frac{1}{2} \cdot \left(\frac{1}{5}\right)^x$



x	y
-2	12.5
-1	2.5
0	0.5
1	0.1
2	0.02

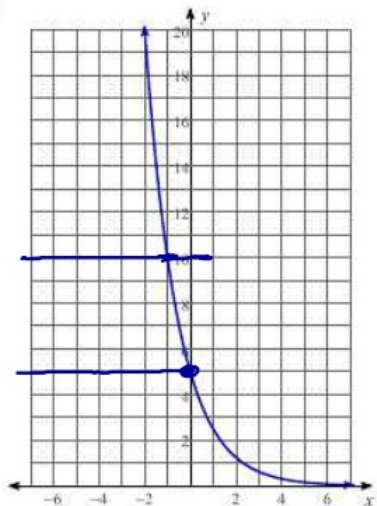
12) $y = 3 \cdot \left(\frac{1}{2}\right)^x$



x	y
-2	12
-1	6
0	3
1	1.5
2	0.75

Write an equation for each graph.

13)



y-int 5
mult. $\frac{1}{2}$

14)

