Complete for HW 11/13/13

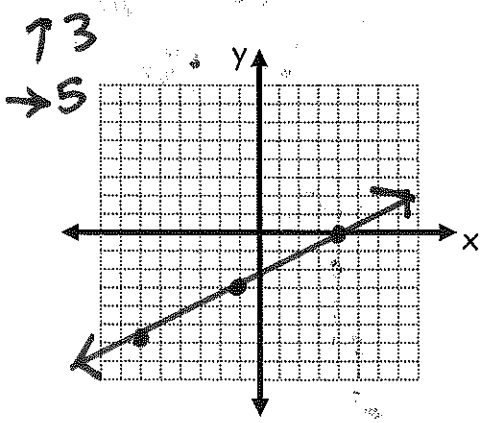
Graphing a Line Given Slope and a Point Activity

Name _____

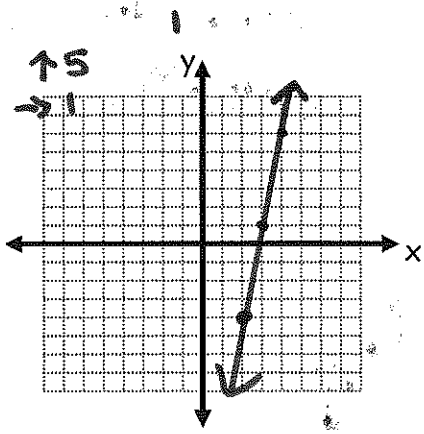
Date _____ Period 3rd

Given the slope and a point graph each of the following.

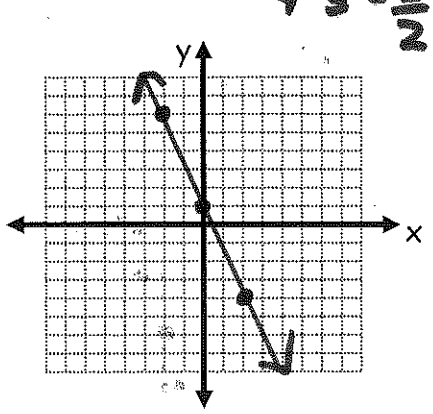
1. $m = \frac{3}{5}$; $(-1, -3)$



2. $m = 5$; $(2, -4)$



3. $m = -2.5$; $(-2, 6)$



b constant rate: slope

4. Laverne and Shirley are making a scrapbook. The book costs $7 and supplies for each page are $3. To calculate the cost for any number of pages, each girl wrote an equation.

y = mx + b Point-Slope form

Laverne: $y = 3x + 7$ Shirley: $y - 13 = 3(x - 2)$

a. Using Laverne's equation, find the cost for 10 pages.

$y = 3x + 7$
$y = 3(10) + 7$
$y = \$37$

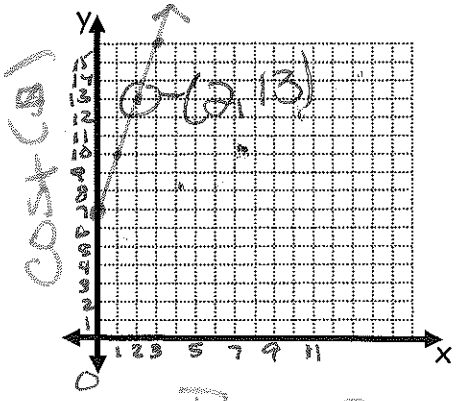
b. Using Shirley's equation, find the cost for 10 pages.

$y - 13 = 3(x - 2)$
$y - 13 = 3(10 - 2)$
$y - 13 = 24$
$+13 \quad +13$
$y = \$37$

c. Is it possible to use both equations to accurately calculate the total cost? Explain.

yes used different forms

d. Graph the line represented by Laverne's equation.



e. Is the point (2, 13) on the graph? yes

f. How does the point (2, 13) relate to Shirley's equation?

Shirley's equation was in a form called "point-slope".

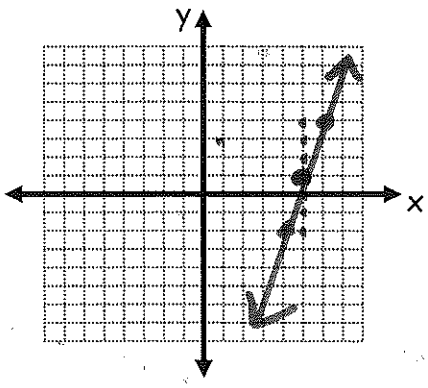
point–slope form: $y - y_1 = m(x - x_1)$ m: slope point (x_1, y_1)

Given point–slope form, identify the slope and the point, and then graph each of the following.

5. $y - 1 = 3(x - 5)$

slope 3 $m = \frac{3}{1}$ ↑ →

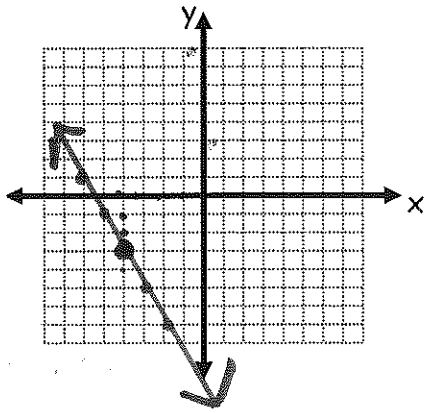
point (5, 1)



6. $y + 3 = -2(x + 4)$

slope −2 $m = \frac{-2}{1}$ ↓ →

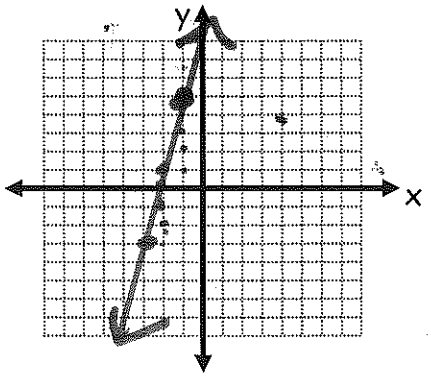
point (−4, −3)



7. $y - 5 = 4(x + 1)$

slope 4 $m = \frac{4}{1}$ ↑ →

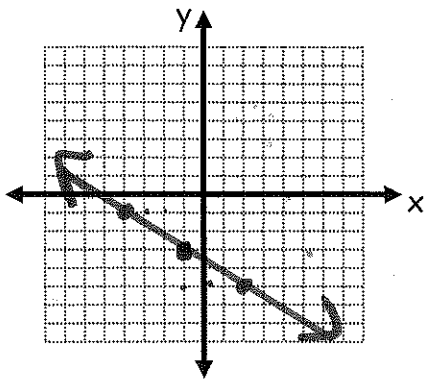
point (−1, 5)



8. $y + 3 = \frac{-2}{3}(x + 1)$

slope $-\frac{2}{3}$ ↓ → ↑ ←

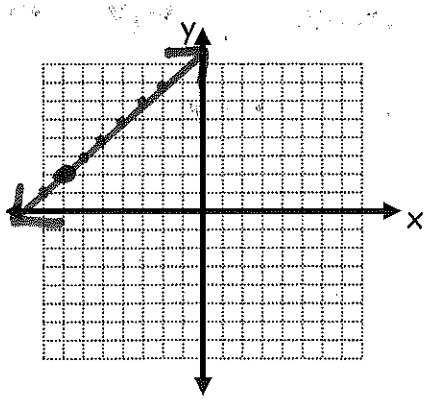
point (−1, −3)



9. $y - 2 = 1(x + 7)$

slope 1

point (−7, 2)



10. $3(x - 1) = y + 2$

slope 3

point (1, −2)

$m = \frac{3}{1}$ ↓ → ↑ ←