

Algebra I

Notes Section 4.3

Write Linear Equations in Point-Slope Form

Big Ideas

1. How to write an equation of a line in point-slope form if given the slope of the line and a point the line goes through.
2. How to graph an equation in point-slope form.
3. How to write an equation in point-slope form if given 2 points.

VOCABULARY

Point-Slope Form: _____

EXAMPLE 1 Write an equation in point-slope form of the line that passes through the following point and has the given slope.

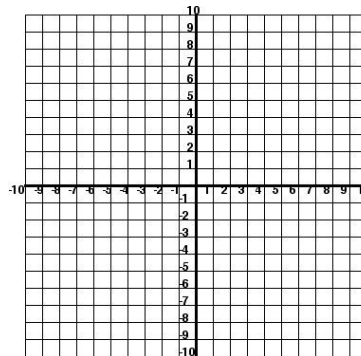
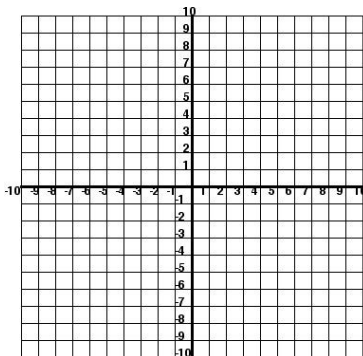
a) $(4, -3)$ and $m = 2$

b) $(3, 4)$ and $m = 3$

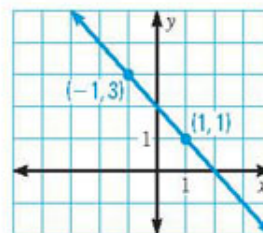
EXAMPLE 2 Graph the equation.

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

b) $y - 1 = -(x - 2)$



EXAMPLE 3 Write an equation in point-slope form of the line shown.



EXAMPLE 4 You are designing a sticker to advertise your band. A company charges \$225 for the first 1000 stickers and \$80 for each additional 1000 stickers. Write an equation that gives the total cost (in dollars) of stickers as a function of the number (in 1000's) of stickers ordered. Find the cost of 9000 stickers.

EXAMPLE 5 The table show the cost of visiting a working ranch for one day and night for different numbers of people. Can the situation be modeled by a linear equation? If possible, write an equation.

Number of people	4	6	8	10	12
Cost (dollars)	250	350	450	550	650