Point slope form

So far, we know that a line can be written in the form: y = mx + b

Another form exists called "point-slope form"

This form requires that you know: a point (a , b) and a slope  ***(shocking?)***

Formula: $y - b = m(x - a)$

1) Find the equation line passing thru the point (8, -4) with a slope of -4

Answer: $y + 4 = -4(x - 8)$ ***Notice the point changes signs due to formula***

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2) Write the equation of a line passing thru the pts (6, -3) and (9, 7) in pt-slope form

$m = \frac{7--3}{9-6}$ *or* $m = \frac{10}{3}$

You can use either point $y + 3 = \frac{10}{3}(x - 6)$ ***or*** $y - 7 = \frac{10}{3}(x - 9)$

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3) A line with slope $\frac{-3}{11}$ ***passes thru the point (-99, 3). Write the equation in 2 different ways***

pt-slope

$y - 3 = \frac{-3}{11}(x + 99)$

slope y-int form

$y = \frac{-3}{11}x + b$ → $3 = \frac{-3}{11}(-99) + b$

3 = 27 + b

$y = \frac{-3}{11}x - 24$

Sketch the following

a) y – 3 = 4(x + 2)

m = 4 point (-2, 3)

b) y + 5 = - ¼ (x – 1)

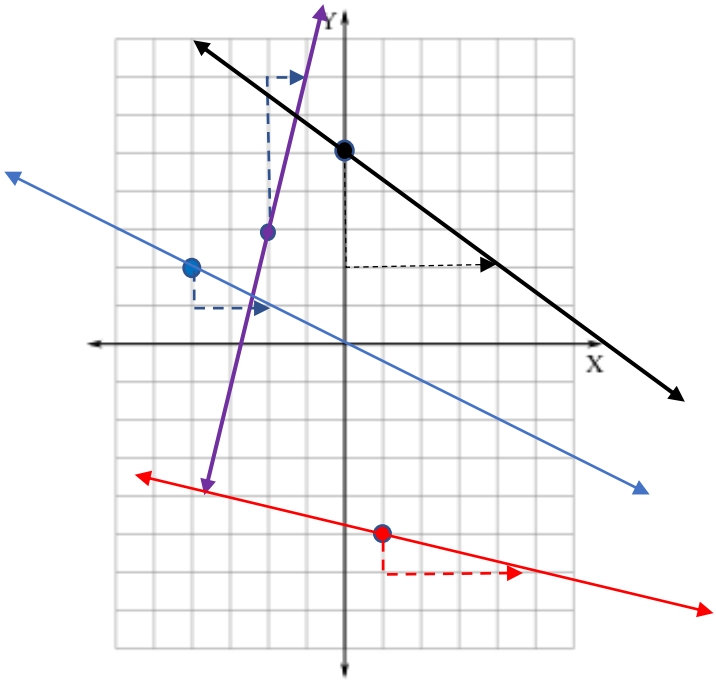
m = - ¼ point (1, -5)

c) y – 2 = - ½ (x + 4)

m = - ½ point (-4, 2)

d) y = - ¾ x + 5

y-int = 5 m = - ¾



Page 372 #4, 5, 6, 8, 9(a), 11 ,12,14