Questions 3.3 EQ: HOW DO YOU USE EQUATIONS OF LINES?

Slope-Intercept Form of a linear equation:

$y = mx + b$ m = slope (x, y) = point on line

b = y-intercept (where line hits y-axis)

Example 1: Identify the slope and y-intercept of the graphs:

a) $y = -\frac{1}{2}x + \frac{2}{3}$

$y = mx + b$

slope $= m = \frac{-1}{2}$

y-int $= b = \frac{2}{3}$

$(0, \frac{2}{3})$

b) $y = 1x + 4$

slope $= 1 = \frac{1}{1}$

y-int $= 4$

$(0, 4)$

c) $y = 2x + 0$

slope $= 2 = \frac{2}{1}$

y-int $= 0$

$(0, 0)$

Example 2: Write an equation of the line with the following information:

a) slope = ½, y-intercept = -1

$y = \frac{1}{2}x - 1$

$y = \frac{1}{2}x + -1$

b) slope = -2, has point (0, 9)

$y = -2x + 9$

c) through points (3, -2) and (1, -3)

d)