

Find the equation of the line, given

a. $(3, -3), (5, -9)$ $y = mx + b$

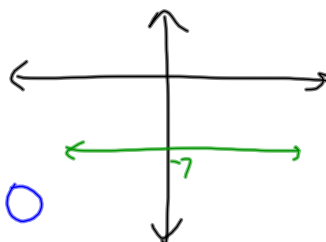
$$m = \frac{-9 - (-3)}{5 - 3} = \frac{-9 + 3}{5 - 3} = \frac{-6}{2} = -3$$

$$\begin{array}{r} -3 = -3(3) + b \\ -3 = -9 + b \\ +9 \quad +9 \\ \hline 6 = b \end{array}$$

$$y = -3x + 6$$

b. $(2, -7), (-4, -7)$ $y = -7$

$$m = \frac{-7 - (-7)}{-4 - 2} = \frac{0}{-6} = 0$$



$$\begin{array}{r} -7 = 0(-4) + b \\ -7 = b \end{array}$$

$$y = 0x - 7$$

$$y = -7$$

c. $(0, 3), (5, -7)$

$$m = \frac{-7 - 3}{5 - 0} = \frac{-10}{5} = -2$$

$$\begin{array}{r} 3 = -2(0) + b \\ 3 = 0 + b \\ 3 = b \end{array}$$

$$y = -2x + 3$$

d. $(5, 2), (5, 7)$

$$m = \frac{7 - 2}{5 - 5} = \frac{5}{0} \text{ undefined}$$

$$x = 5$$

$$x = a$$

