

Warm-up:

Given $3x - 8y + 4 = 0$

$$m = \frac{3}{8}$$

$$m_{\perp} = \frac{8}{3}$$

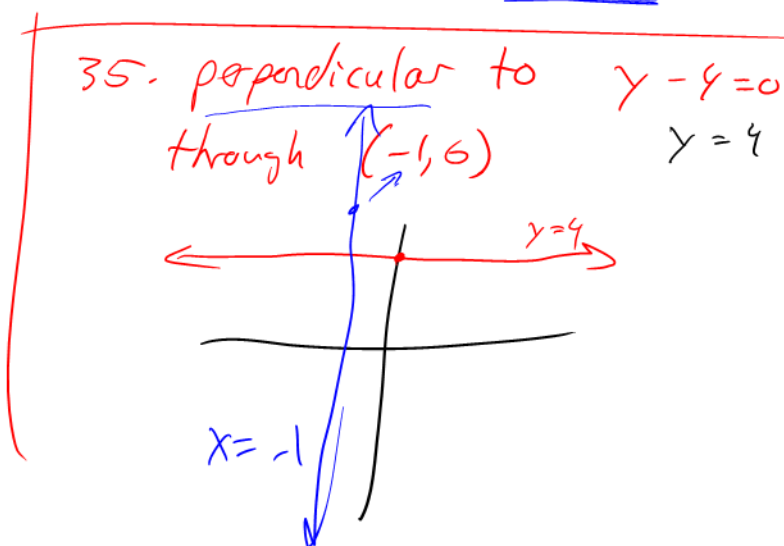
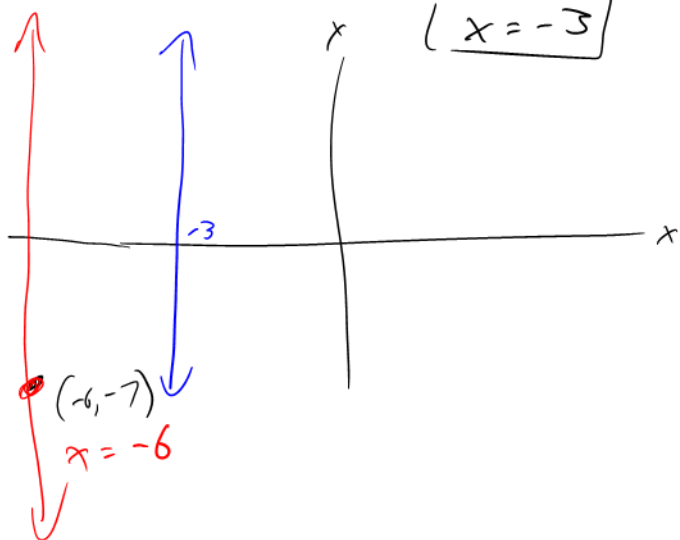
$$m_{\perp} = -\frac{8}{3}$$

$$\frac{8y}{8} = \frac{3x}{8} + \frac{4}{8}$$
$$y = \left(\frac{3}{8}\right)x + \frac{1}{2}$$

$\nearrow m$

pg 437 # 34,

parallel to $x+3=0$ and passes through $(-6, -7)$



37. perp. to $3x - 12y + 16 = 0$

Same y-int as $14x - 13y - 52 = 0$

We need 2 things: (1) slope
(2) point

(1) Slope:

$$3x - 12y + 16 = 0$$

$$\frac{3x}{12} + \frac{16}{12} = \frac{12y}{12}$$

$$\frac{1}{4}x + \frac{4}{3} = y$$

$mx + b$

$$m = \frac{1}{4}$$

$$m_{\perp} = -4$$

(2) point $\rightarrow$ y-int

$$y\text{-int, } x = 0$$

$$14(0) - 13y - 52 = 0$$

$$-13y = 52$$

$$y = -4$$

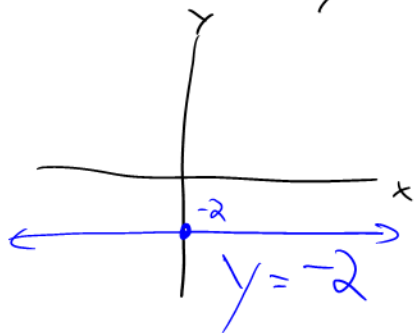
(3) Equation:

$$y = mx + b$$

$$y = -4x - 4$$

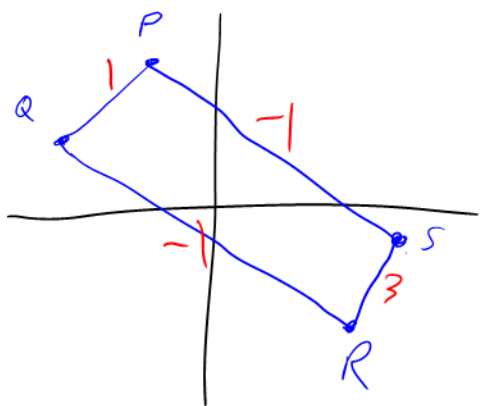
$$\therefore (0, -4)$$

pg 438 #58. Write an equation that is perpendicular to the y-axis and has a y-int of -2



$$m = \frac{y_2 - y_1}{x_2 - x_1}$$

53. Plot $P(-2, 5)$, $Q(-4, 3)$, $R(4, -5)$, $S(5, -2)$



$$m_{PQ} = \frac{3-5}{-4+2} = \frac{-2}{-2} = 1$$

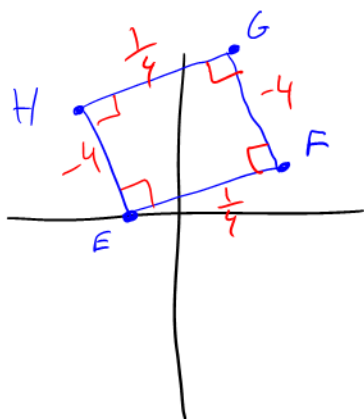
$$m_{QR} = \frac{-5-3}{4+4} = \frac{-8}{8} = -1$$

$$m_{RS} = \frac{-2+5}{5-4} = \frac{3}{1} = 3$$

$$m_{SP} = \frac{5+2}{-2-5} = \frac{7}{-7} = -1$$

∴ a trapezoid

54. Plot $E(-1, 0)$, $F(3, 1)$, $G(2, 5)$, $H(-2, 4)$



$$m_{EF} = \frac{1-0}{3+1} = \frac{1}{4}$$

$$m_{FG} = \frac{5-1}{2-3} = \frac{4}{-1} = -4$$

$$m_{GH} = \frac{4-5}{-2-2} = \frac{-1}{-4} = \frac{1}{4}$$

$$m_{HE} = \frac{0-4}{-1+2} = \frac{-4}{1} = -4$$

∴ this is
a square or
a rectangle.

Homework: 8.6 pg 438 # 52, 55, 56

Handout #9-12 AND #21-26