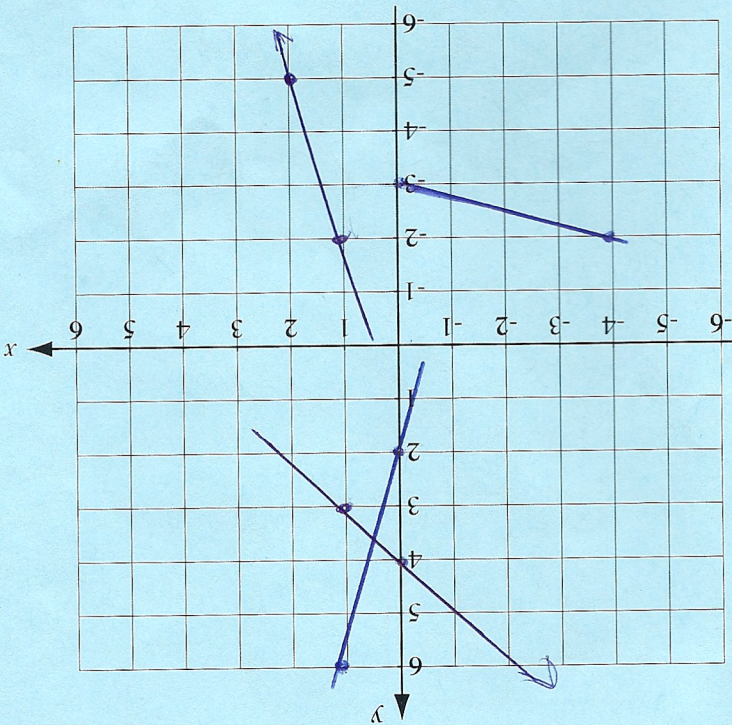


4. (10 points) Find the equation of the line that passes through the point $(2, -5)$ and is perpendicular to the line $x - 4y = -8$. Graph both lines on the axes below.



$$12x - 4y = -x - 8$$

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

$$y = x + 2$$

$$y - y_1 = m(x - x_1)$$

$$y + 5 = \frac{1}{4}(x - 2)$$

$$y + 5 = x + 2$$

$$y = x - 3$$

-8

5. (10 points) The maximum daily fat intake, F , that should be in a person's diet varies directly as a person's weight, w . A person weighing 140 pounds should have no more than 60 grams of fat per day.

$$w = 140 = 60x$$

$$F = 60x$$

a. Find a function relating maximum daily fat intake to a person's weight.

$$F(w) = \left(\frac{3}{7}\right)w$$

$$\frac{7}{3} \cdot 140 = w$$

$$60 = w$$

grams of fat per day

b. What is the maximum daily fat intake for a person weighing 190 pounds?

$$F(w) = \frac{3}{7}w$$

$$190 \left(\frac{3}{7}\right) = w$$

$$w = 81.42$$

grams of fat per day

fat per day

(-11)