

SEW HW 1

1. Solve the following equations for x .

$$\frac{2x - 3}{4} - \frac{4 - x}{2} = \frac{x + 1}{3}$$

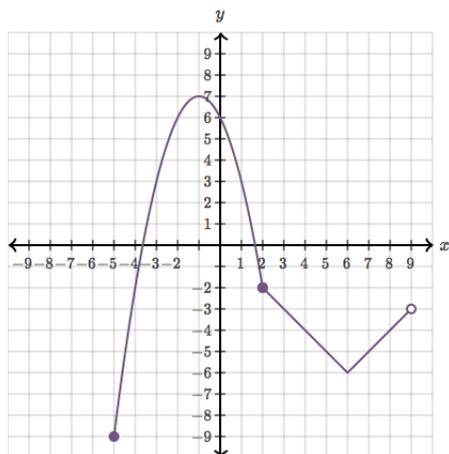
$$11x + 2 = -3(x - 3)$$

2. Solve the following inequality. Graph your solution and write it in interval form.

$$|2x + 5| < 3$$

3. A yard is 3 times as long as it is wide. 176 feet of fencing is needed to enclose the yard. Find the dimensions of the yard.

4. Given the graph below of $f(x)$, please answer the following.



- a. State the domain and range of f .

- b. Find the following.

$f(0)$

$f(2)$

$f(6)$

- c. For what x is $f(x) = -9$?

5. You buy a car for \$10,500, and its value (resale price) depreciates by \$1500 per year. The value y (in \$) can be represented by $y = 10,500 - 1,500x$, where x is the number of years after your purchase of the car.

a. How much will the car be worth after 2 years?

b. After how many years will it be worth \$4500?

c. Determine the y -intercept, and interpret its meaning in this context.

d. Determine the x -intercept and interpret its meaning in this context.

e. What is the slope, and interpret its meaning in this context.

f. Sketch a graph of $y = 10,500 - 1,500x$

