Exercise 10

For the following exercises, find the values for each function, if they exist, then simplify.

$$\text{a. } f(0) \text{ b. } f(1) \text{ c. } f(3) \text{ d. } f(-x) \text{ e. } f(a) \text{ f. } f(a+h)$$

$$f(x) = |x-7| + 8$$

Solution

Evaluate each of the functions.

$$f(0) = |0-7| + 8 = |-7| + 8 = 7 + 8 = 15$$

$$f(1) = |1-7| + 8 = |-6| + 8 = 6 + 8 = 14$$

$$f(3) = |3-7| + 8 = |-4| + 8 = 4 + 8 = 12$$

$$f(-x) = |-x-7| + 8 = |-(x+7)| + 8 = (x+7) + 8 = x + 15$$

$$f(a) = |a-7| + 8$$

$$f(a+h) = |(a+h)-7| + 8 = |a+h-7| + 8$$