Chapter 1.5 –ANALYZING GRAPHS FUNCTIONS

Directions: Provide complete responses to each question. Make sure to show all your work.

1. Find the zeros of the function algebraically.

$$f(x) = 2x^2 - x - 15$$

    a. $x = -\dfrac{5}{2}, x = 3$

    b. $x = -\dfrac{5}{2}, x = -3$

    c. $x = -\dfrac{2}{5}, x = 3$

    d. $x = \dfrac{5}{2}, x = -3$

    e. $x = \dfrac{5}{2}, x = 3$

2. Find the zeros of the function algebraically.

$$f(x) = \sqrt{4x} - 1$$

    a. $x = 0, x = 4$

    b. $x = \dfrac{1}{4}$

    c. $x = 0, x = \sqrt{4}$

    d. $x = 0, x = -\sqrt{4}, x = \sqrt{4}$

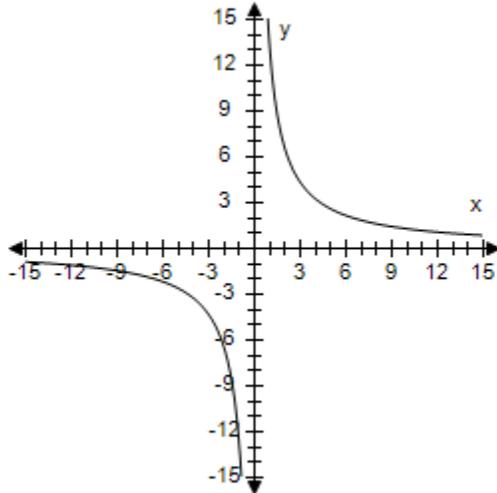   e. $x = 0, x = -4, x = 4$

3. Select the graph of the function and find the zeros of the function.
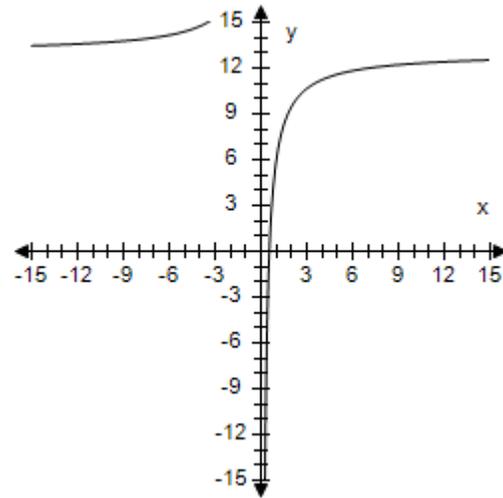
$$f(x) = 7 + \frac{13}{x}$$

a.
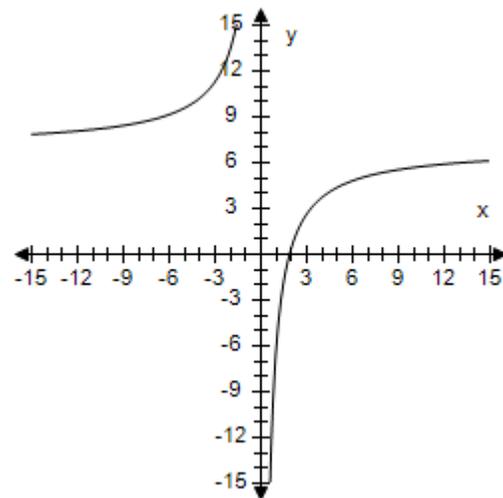

$$x = -13$$

b.

$$x = \frac{7}{13}$$

c.

$$x = -\frac{7}{13}$$

d.
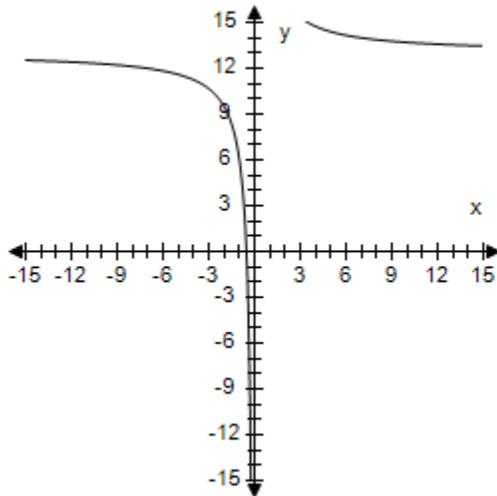
$$x = \frac{13}{7}$$

e.
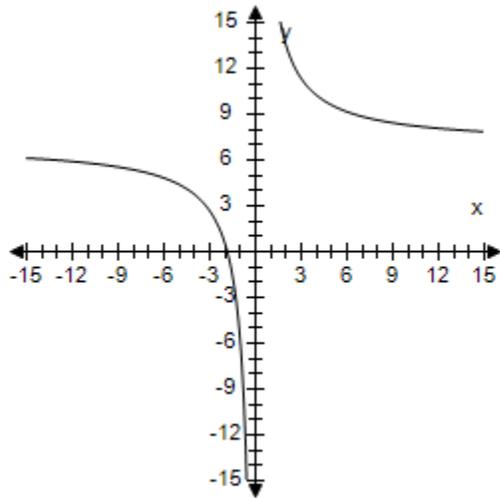
$$x = -\frac{13}{7}$$

4. Find the average rate of change of the function from $x_1 = 0$ to $x_2 = 3$.

$$f(x) = -2x + 12$$

a. The average rate of change from $x_1 = 0$ to $x_2 = 3$ is –2.

b. The average rate of change from $x_1 = 0$ to $x_2 = 3$ is 12.

c. The average rate of change from $x_1 = 0$ to $x_2 = 3$ is 2.

d. The average rate of change from $x_1 = 0$ to $x_2 = 3$ is –12.

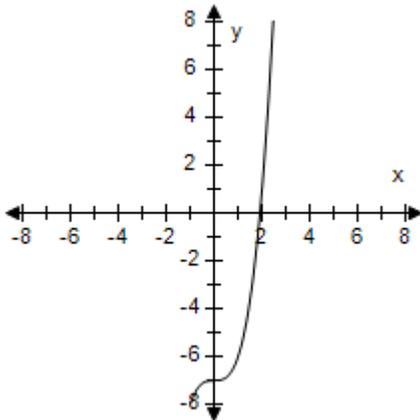e. The average rate of change from $x_1 = 0$ to $x_2 = 3$ is 19.
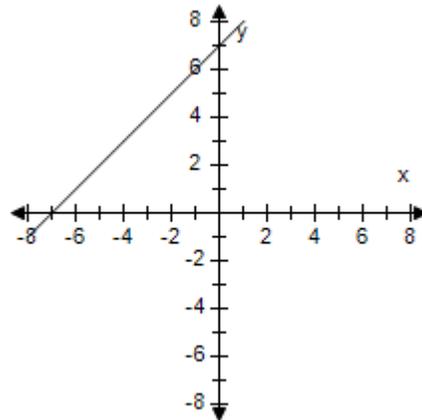
5. Select the graph of the function and determine whether it is even, odd, or neither.

$$f(x) = x^2 - 6$$

a.
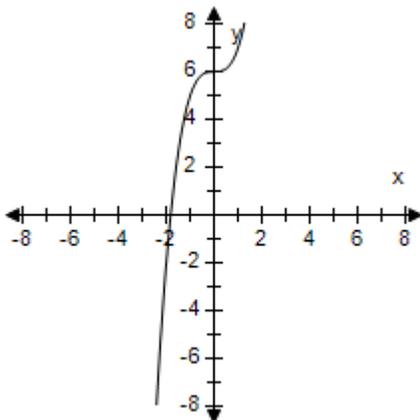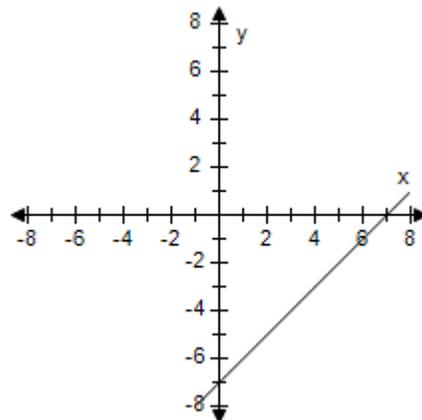
Odd

b.

Neither

c.

Odd

d.
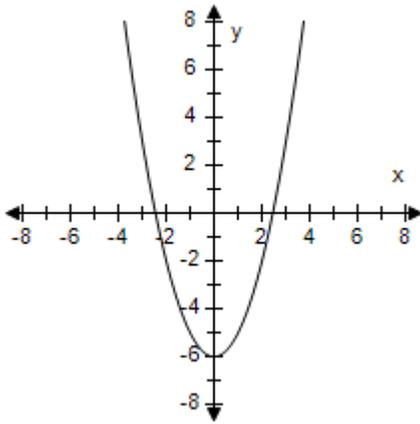

Neither
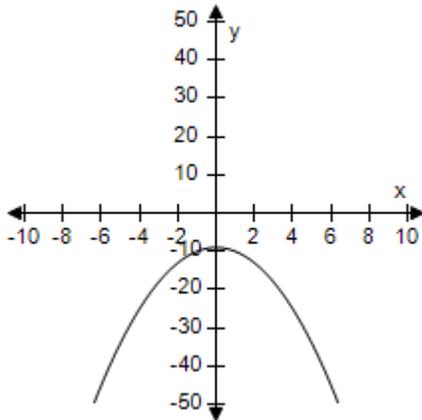
e.

Even
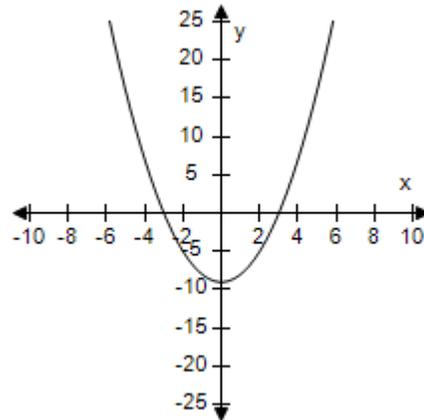
6. Select the graph of the given function and determine the interval(s) for which $f(x) \geq 0$.

$f(x) = 9 - x^2$

a.

[–3, 3]

b.

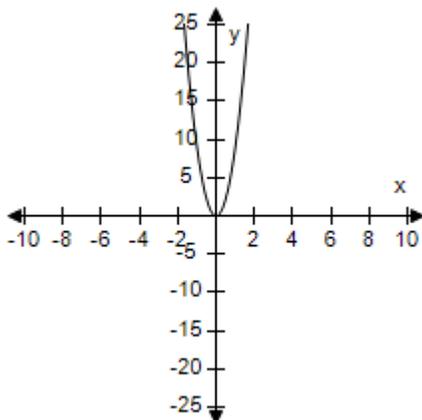[–3, 3]
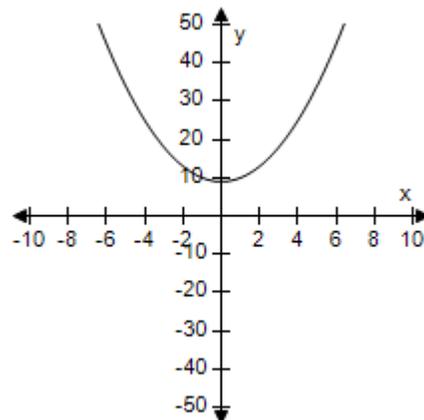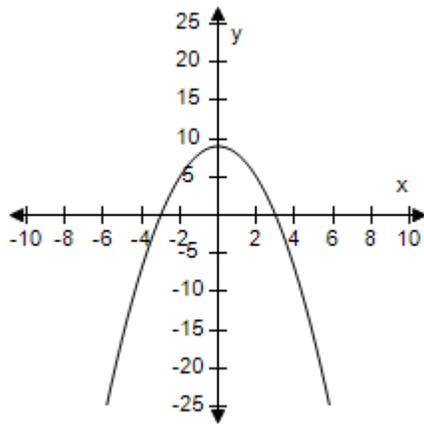
c.

[–3, 3]

d.

[–3, 3]

e.

[–3, 3]

7. Use the graph of the function to find the domain and range of f.
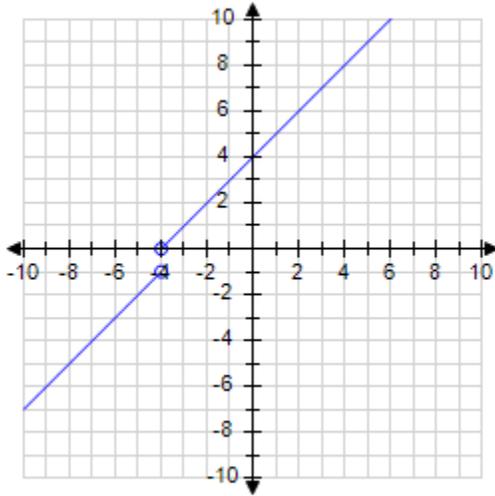
    a. domain: all real numbers
       range: $(-\infty, -1) \cup (0, \infty)$

    b. domain: $(-\infty, -4) \cup (-4, \infty)$
       range: $(-\infty, -1) \cup (0, \infty)$

    c. domain: $(-\infty, -1) \cup (0, \infty)$
       range: $(-\infty, -4) \cup (-4, \infty)$

    d. domain: all real numbers
       range: $(-\infty, -1] \cup [0, \infty)$

    e. domain: all real numbers
       range: all real numbers