

Analyzing Graphs of Functions and Relations Exit Quiz

Multiple choices

1. Which of the following is an even function?

a.) $f(x) = \sqrt{x}$

b.) $f(x) = \frac{1}{x}$

c.) $f(x) = |x|$

d.) $(x - 2)^2$

2. Given that $(3, 1)$ is a point on a graph that is symmetric with respect to the origin, what other point is also on the graph?

a.) $(3, 1)$

b.) $(-3, -1)$

c.) $(-3, 1)$

d.) $(3, -1)$

3. Complete the chart.

Tests for Symmetry	The graph of a relation is symmetric with respect to the x-axis	The graph of a relation is symmetric with respect to the y-axis	The graph of a relation is symmetric with respect to the origin
(x, y)			

4. Determine whether the following are even, odd, or neither.

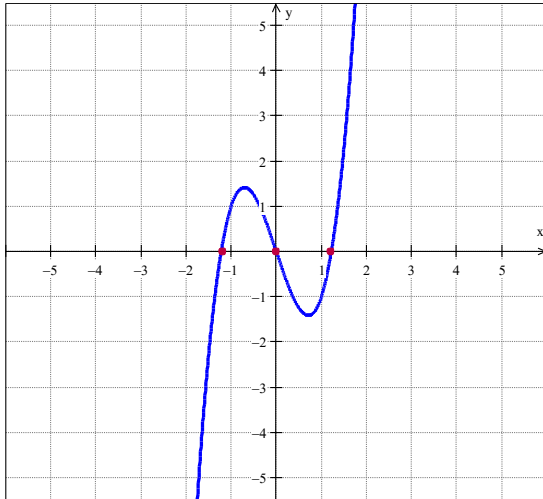
a. $f(x) = 3x^5 - x^3 - x$

b. $h(y) = 2y^2 - 6y$

Analyzing Graphs of Functions and Relations Exit Quiz

5. Use the graph of function to approximate its zeros. Then find the zeros of each function algebraically.

$$f(x) = 2x^3 - 3x$$



Analyzing Graphs of Functions and Relations Exit Quiz

ANSWERS

Multiple choices

1. Which of the following is an even function?

a.) $f(x) = \sqrt{x}$

b.) $f(x) = \frac{1}{x}$

c.) $f(x) = |x|$

d.) $(x - 2)^2$

2. Given that (3, 1) is a point on a graph that is symmetric with respect to the origin, what other point is also on the graph?

a.) (3, 1)

b.) (-3, -1)

c.) (-3, 1)

d.) (3, -1)

3. Complete the chart.

Tests for Symmetry	The graph of a relation is symmetric with respect to the x-axis	The graph of a relation is symmetric with respect to the y-axis	The graph of a relation is symmetric with respect to the origin
(x, y)	$(x, -y)$	$(-x, y)$	$(-x, -y)$

4. Determine whether the following are even, odd, or neither.

a. $f(x) = 3x^5 - x^3 - x$

b. $h(y) = 2y^2 - 6y$

$$f(-x) = 3(-x)^5 - (-x)^3 - (-x)$$

$$f(-x) = -3x^5 + x^3 + x$$

$$f(-x) = -(3x^5 - x^3 - x)$$

$$f(-x) = -f(x)$$

The function is odd.

$$h(-y) = 2(-y)^2 - 6(-y)$$

$$h(-y) = 2y^2 + 6y$$

$$h(-y) \neq -h(y)$$

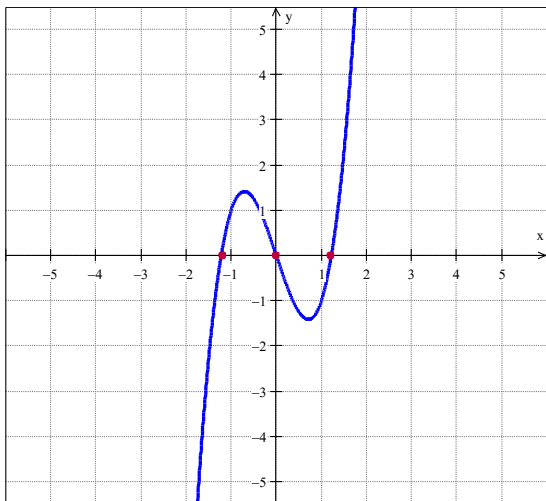
$$h(-y) \neq h(y)$$

The function is neither.

Analyzing Graphs of Functions and Relations Exit Quiz

5. Use the graph of function to approximate its zeros. Then find the zeros of each function algebraically.

$$f(x) = 2x^3 - 3x$$



Graphically

$$f(x) = 2x^3 - 3x$$

x - intercepts **-1.2, 0 and 1.2**

Algebraically

$$f(x) = 0$$

$$2x^3 - 3x = 0$$

$$x(x^2 - 3) = 0$$

$$x(x - \sqrt{3})(x + \sqrt{3}) = 0$$

$$\mathbf{x = 0}$$

$$x - \sqrt{3} = 0$$

$$\mathbf{x = \sqrt{3} \approx 1.71}$$

$$x + \sqrt{3} = 0$$

$$\mathbf{x = -\sqrt{3} \approx -1.71}$$

The zeros of f are **0, $\sqrt{3}$ and $-\sqrt{3}$**