

MR

ESLAM EL-Rashed

TERM 1



054 362 6195



rashedmath



mreslamelrashed@gmail.com



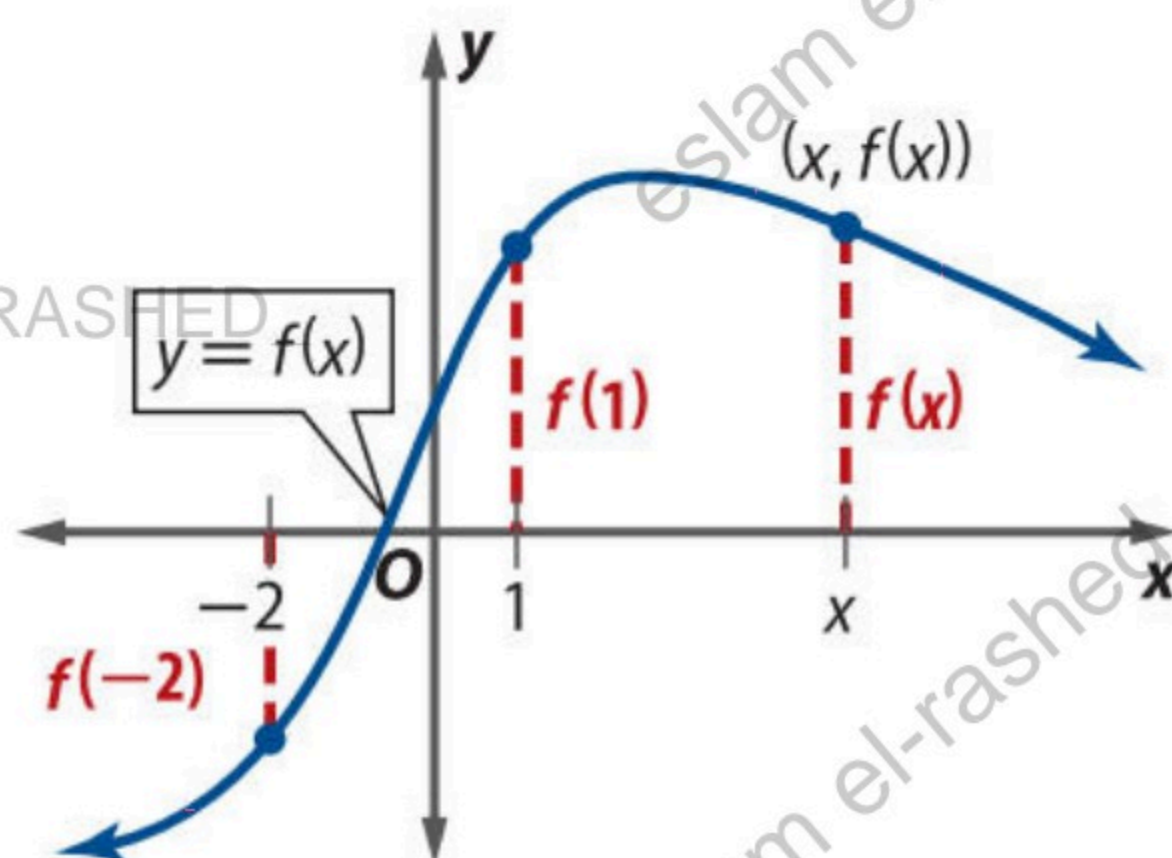
الرياضيات
الصف الثاني عشر العام

mathematics

12 general

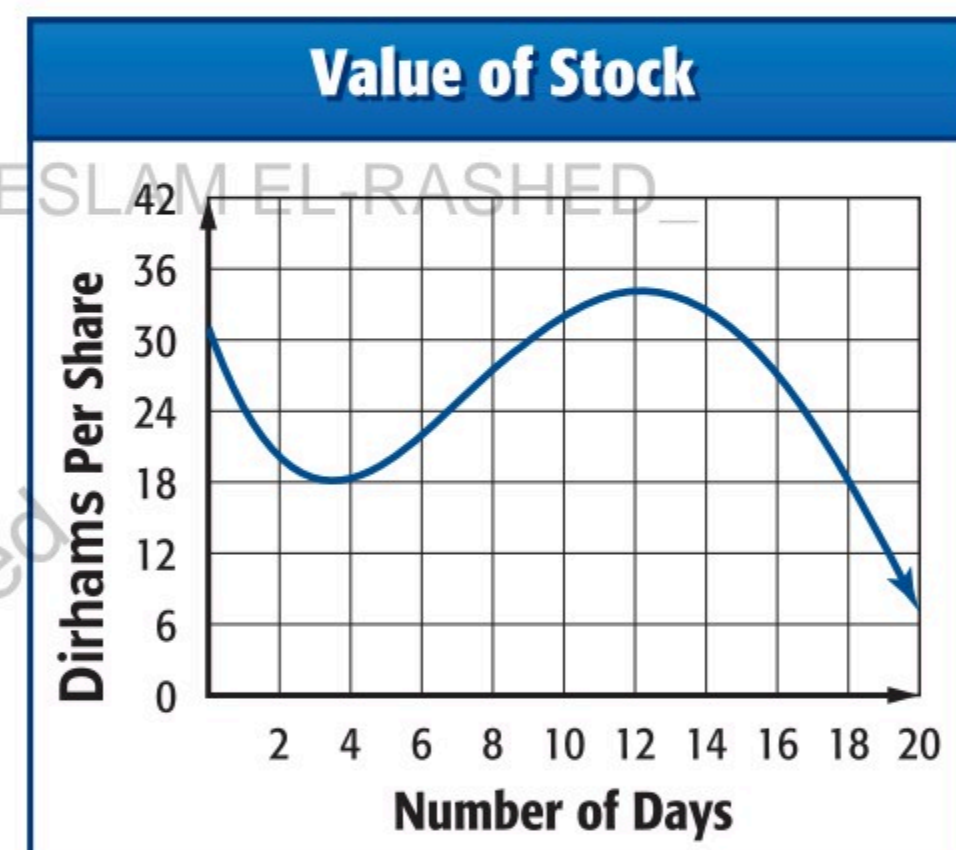
2024 - 2025

Analyzing Graphs Of Functions and relations



1. **STOCKS** An investor assessed the average daily value of a share of a certain stock over a 20-day period. The value of the stock can be approximated by $v(d) = 0.002d^4 - 0.11d^3 + 1.77d^2 - 8.6d + 31$, $0 \leq d \leq 20$, where d represents the day of the assessment.

- A. Use the graph to estimate the value of the stock on the 10th day. Confirm your estimate algebraically.
- B. Use the graph to estimate the days during which the stock was valued at AED 30 per share. Confirm your estimate algebraically.

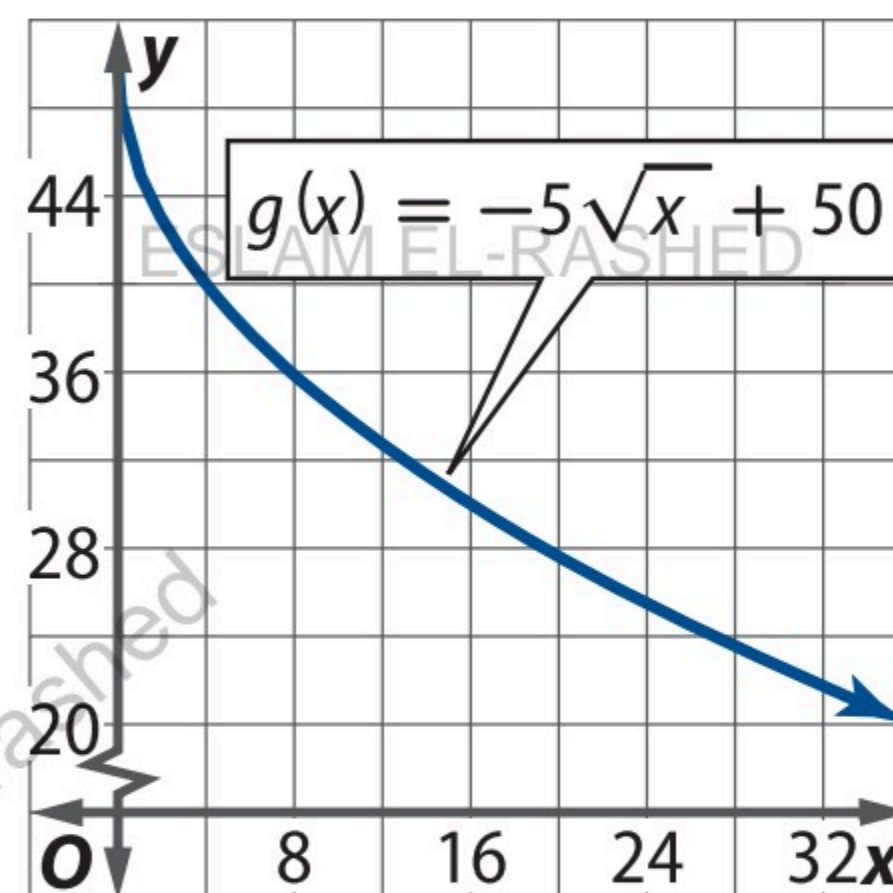


Use the graph of each function to estimate the indicated function values. Then confirm the estimate algebraically. Round to the nearest hundredth, if necessary.

a. $g(6)$

b. $g(12)$

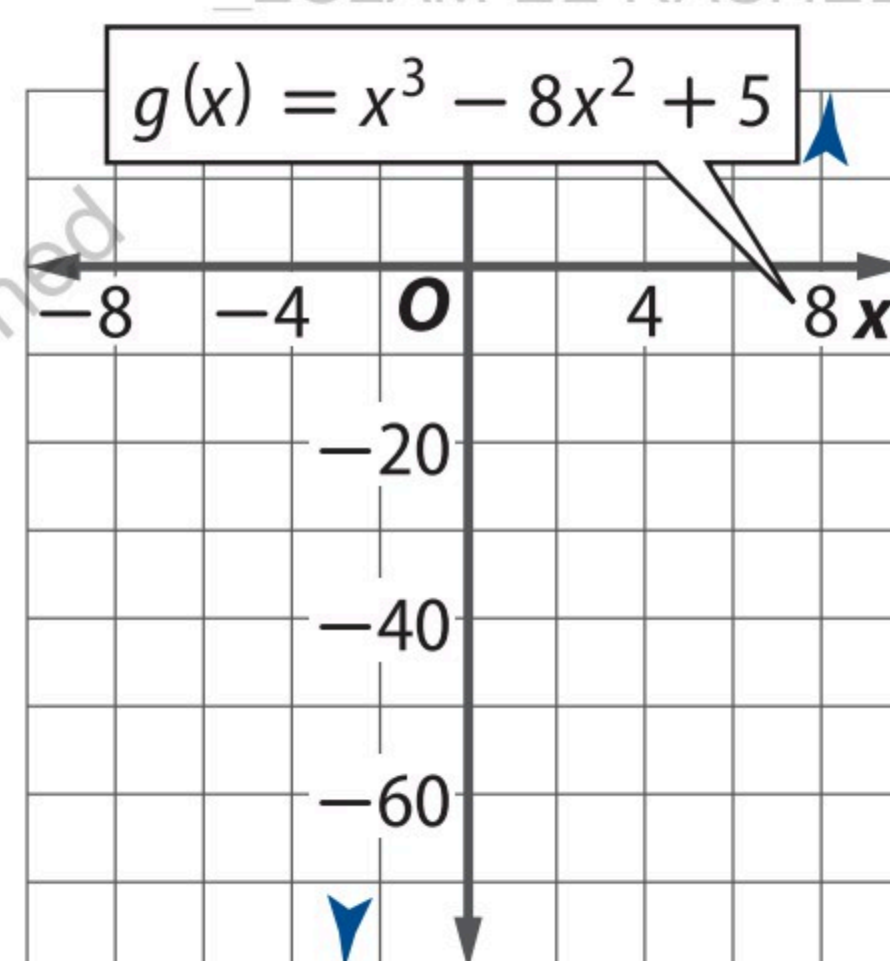
c. $g(19)$



a. $g(-2)$

b. $g(1)$

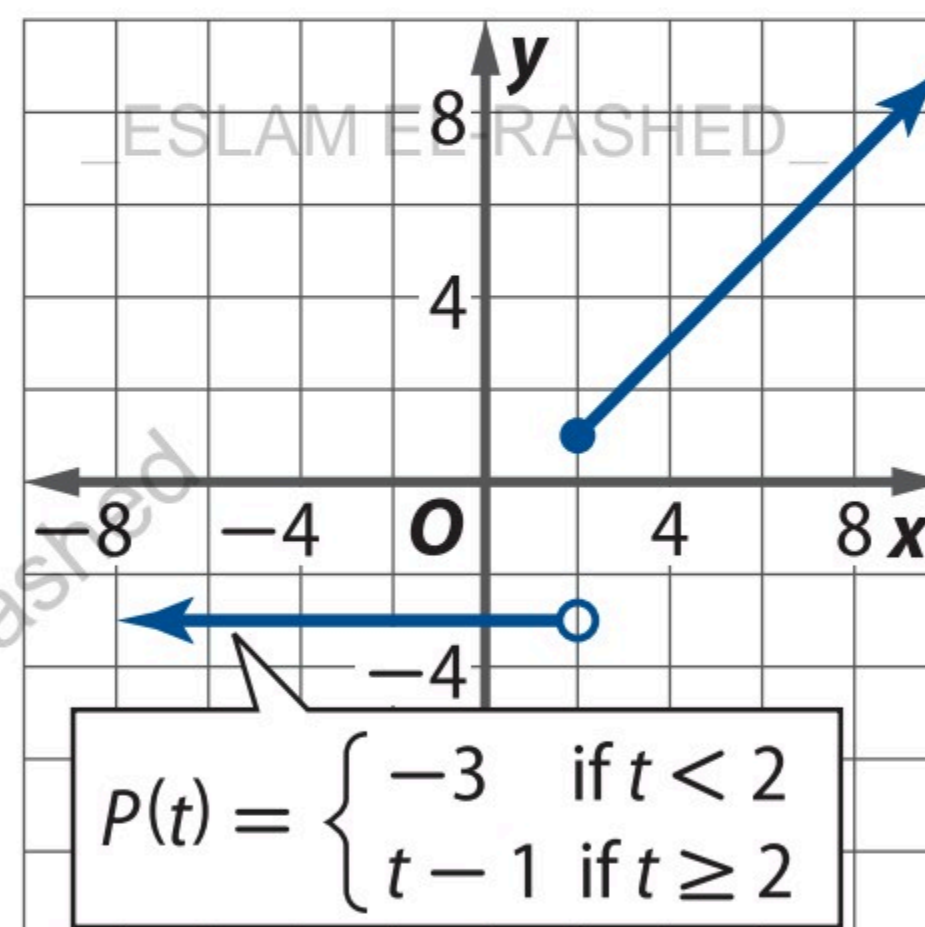
c. $g(8)$

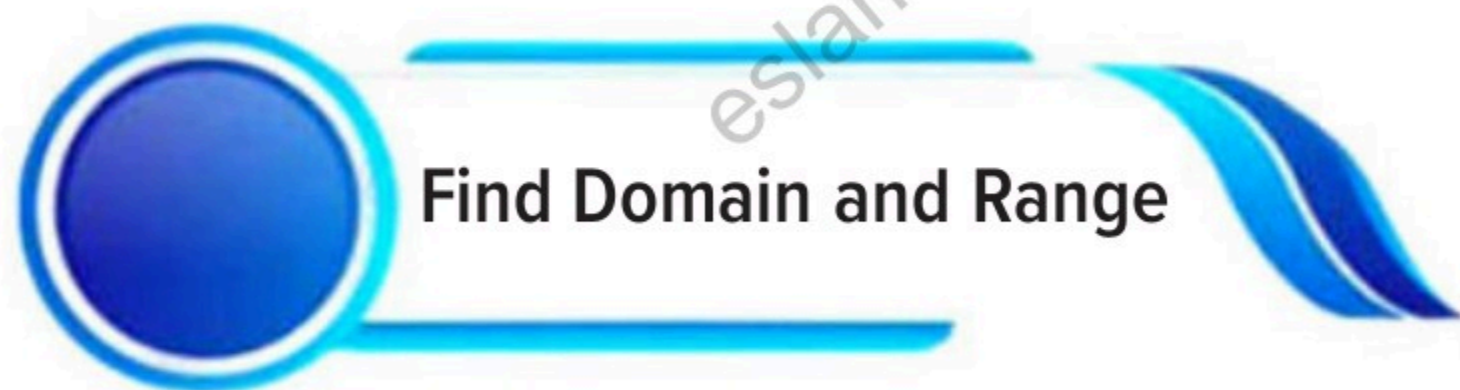


a. $P(-6)$

b. $P(2)$

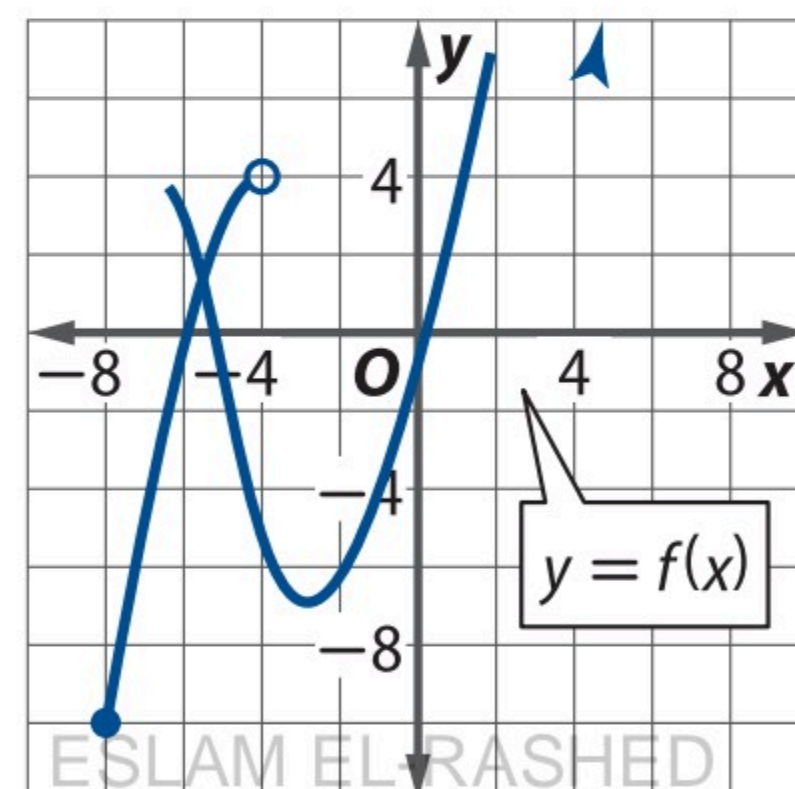
c. $P(9)$





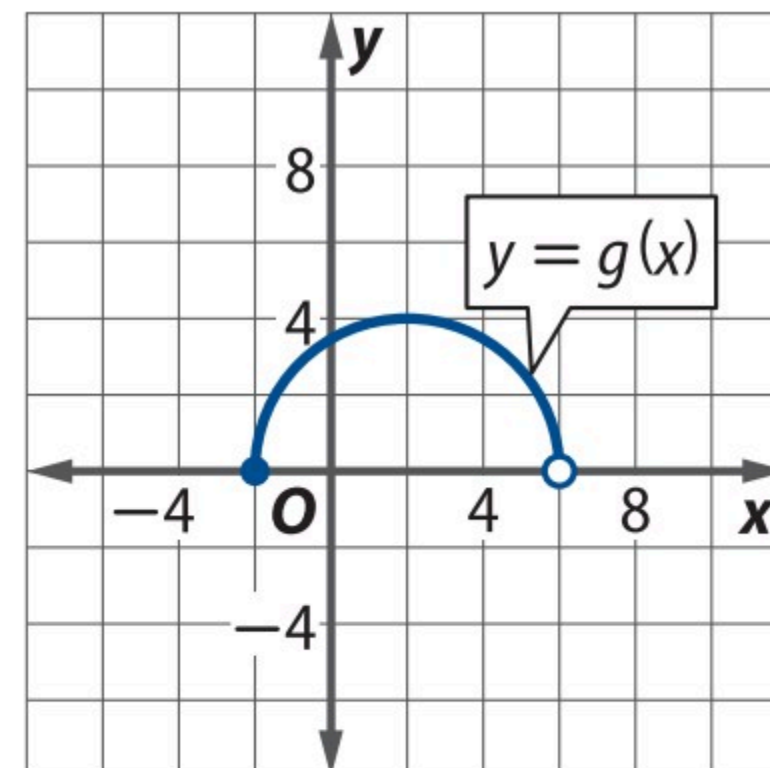
Domain

Range



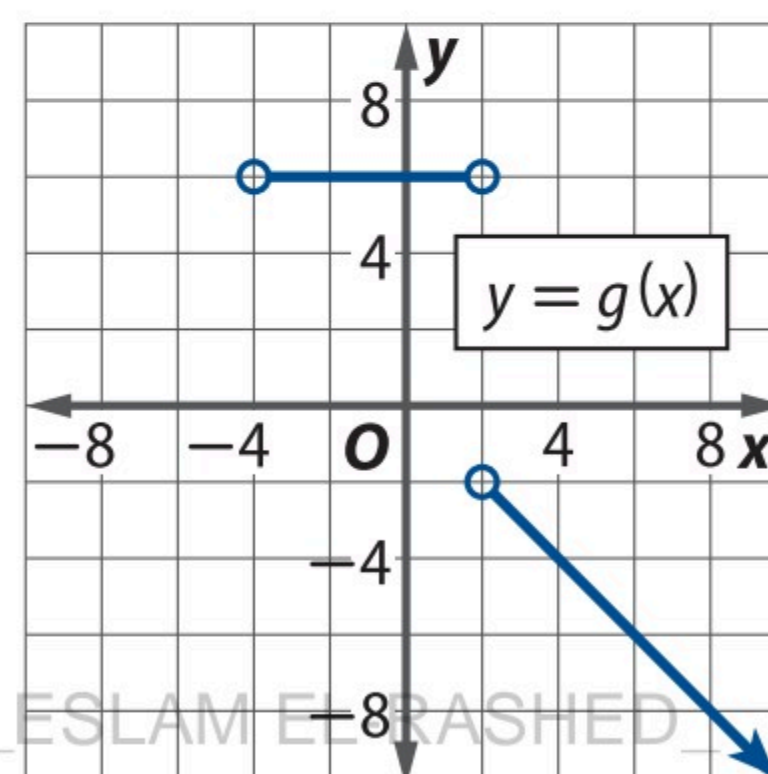
Domain

Range



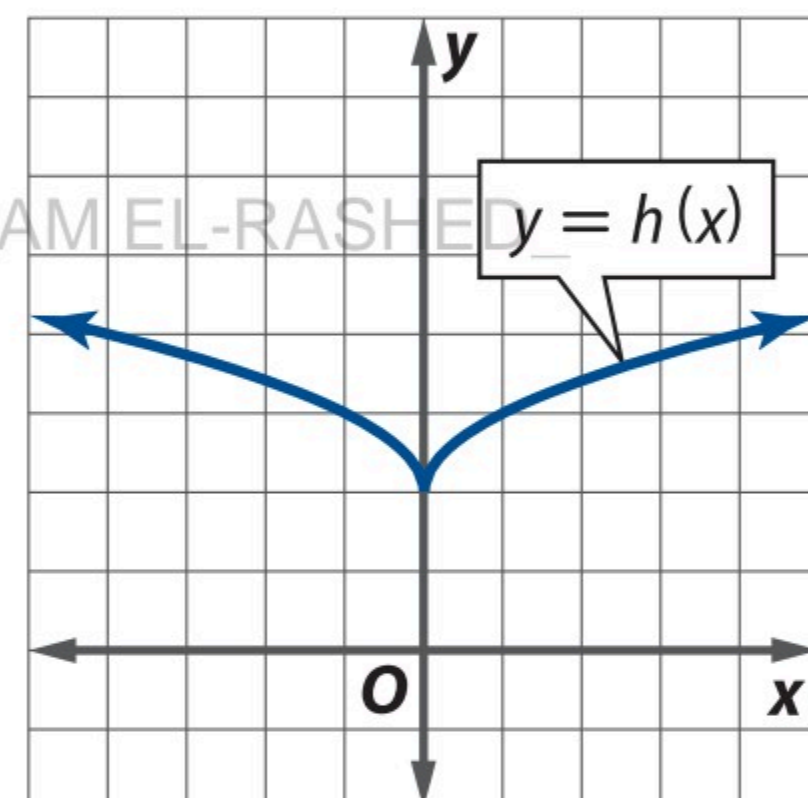
Domain

Range



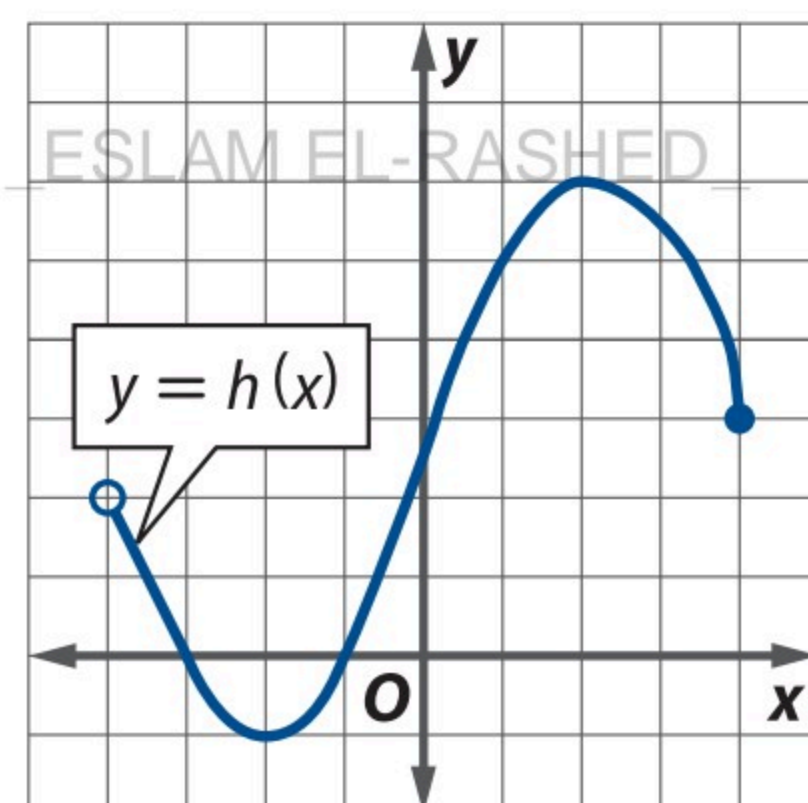
Domain

Range



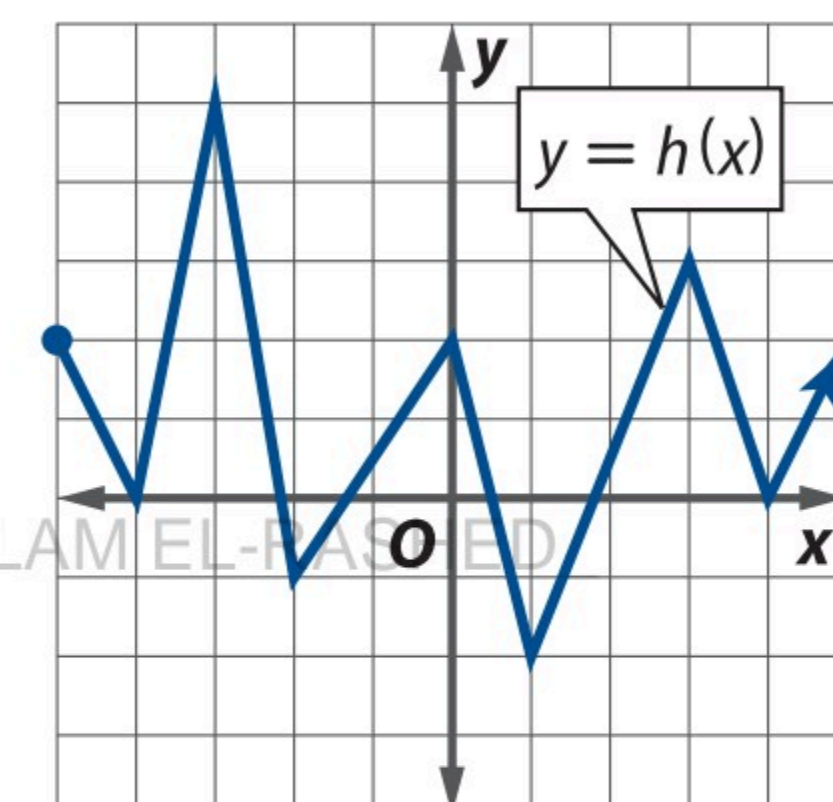
Domain

Range



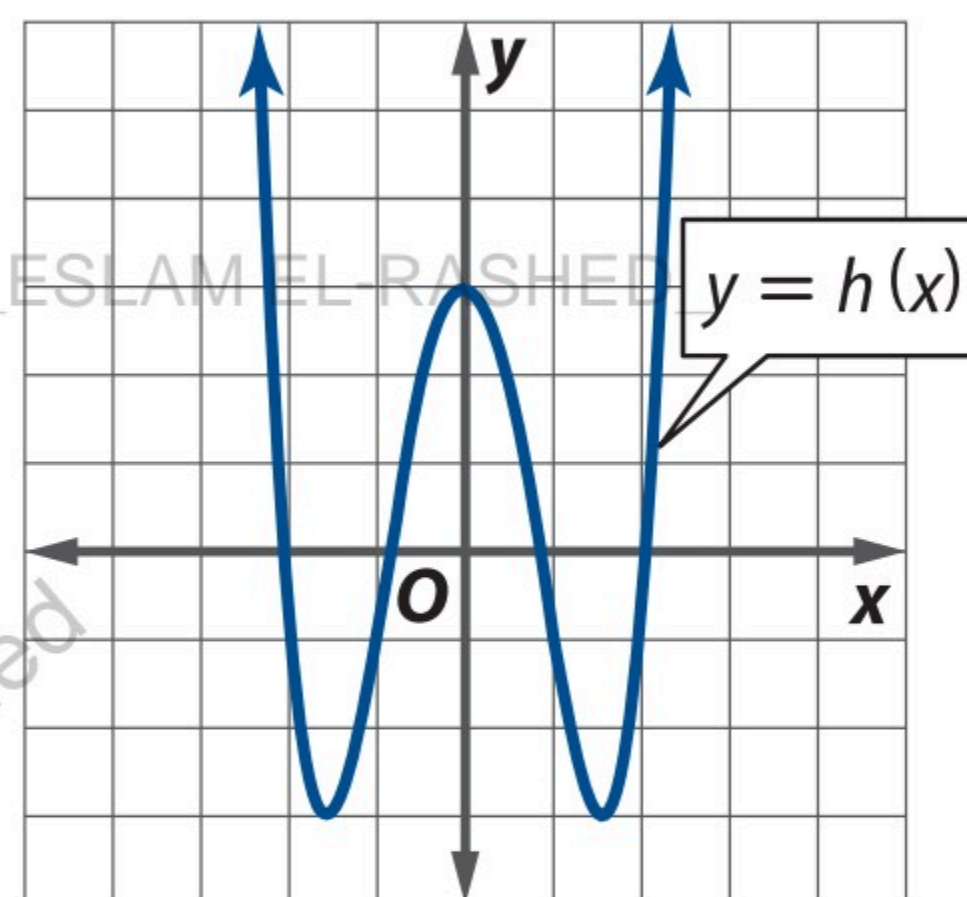
Domain

Range



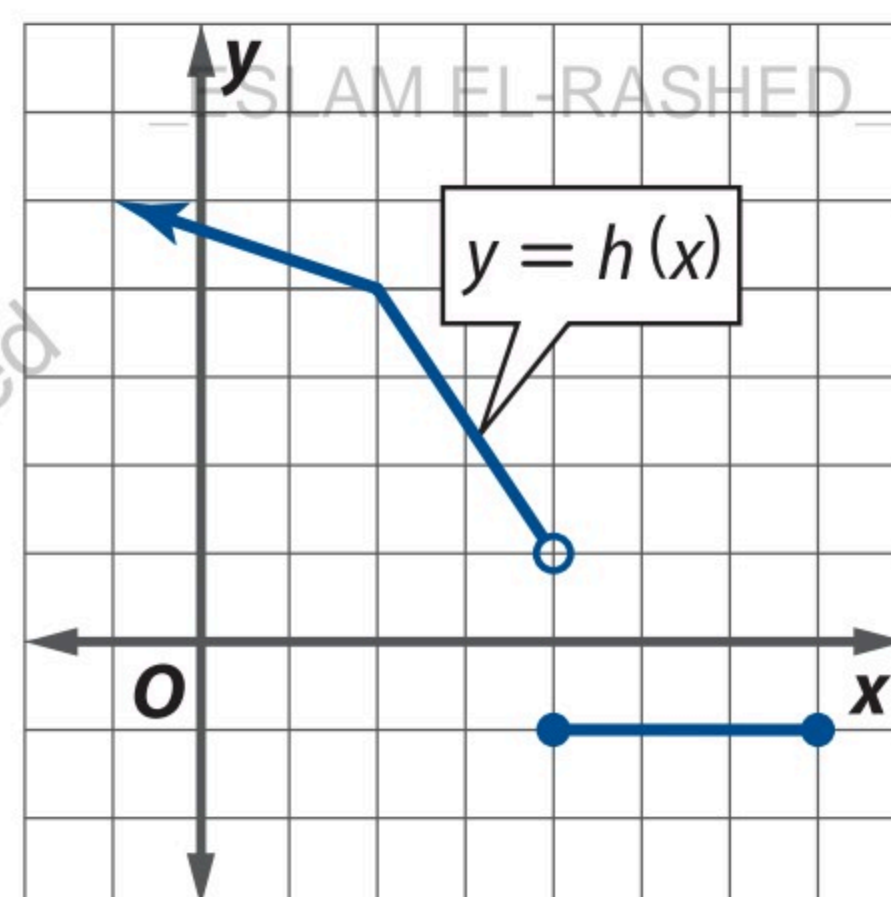
Domain

Range



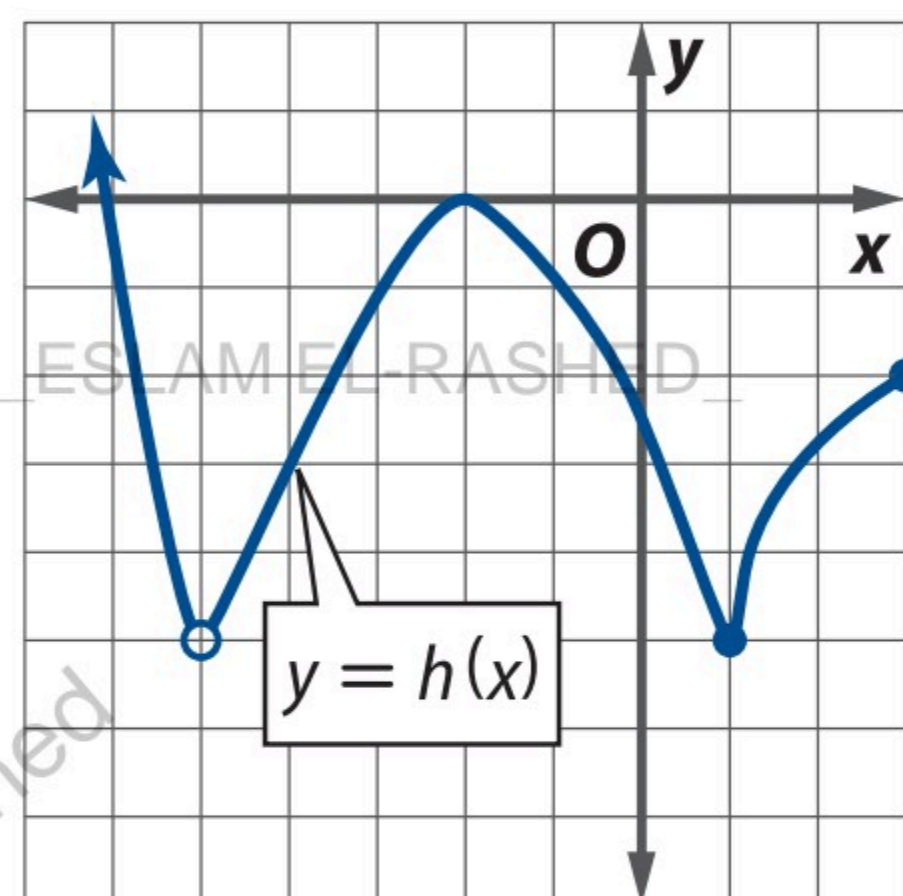
Domain

Range

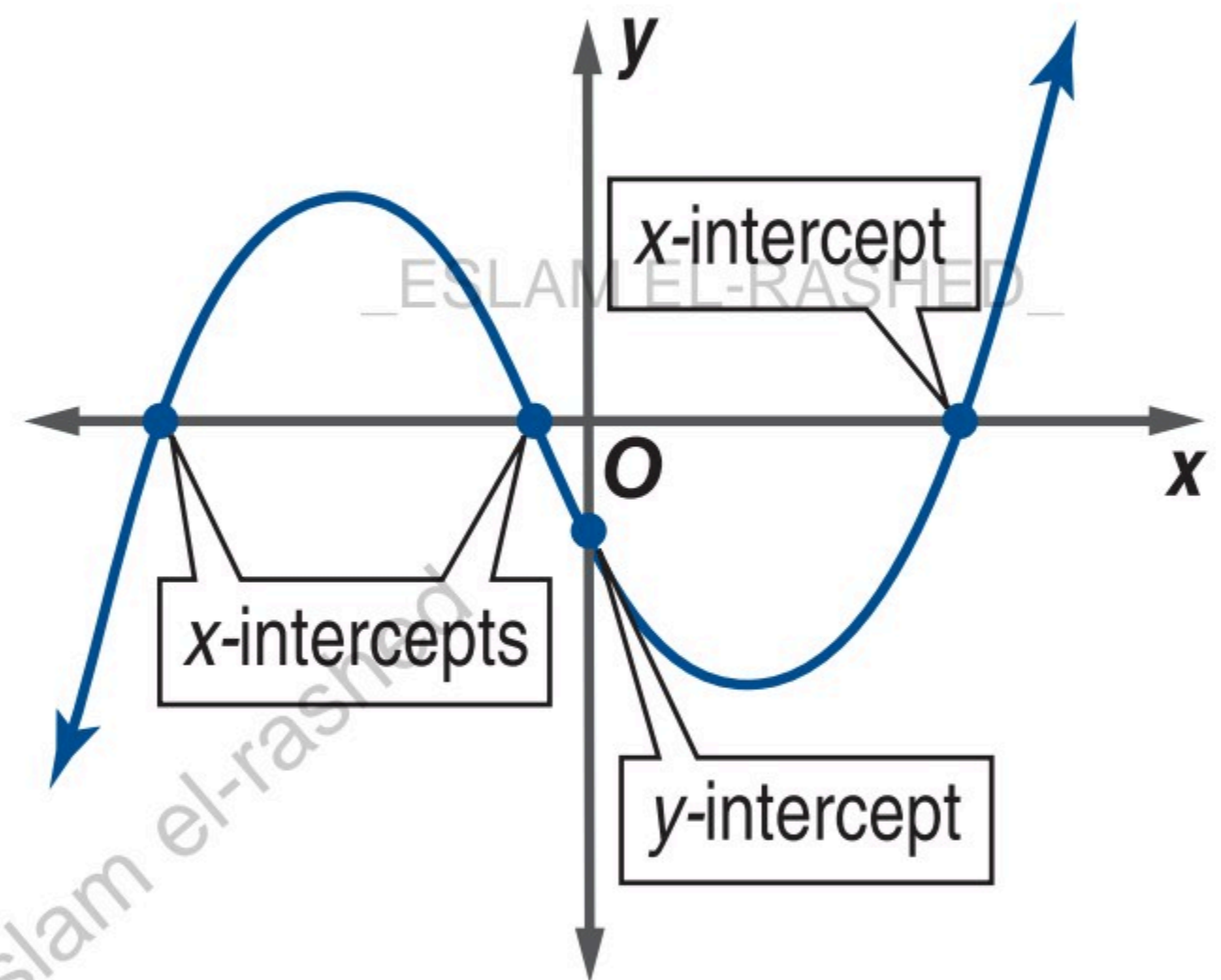


Domain

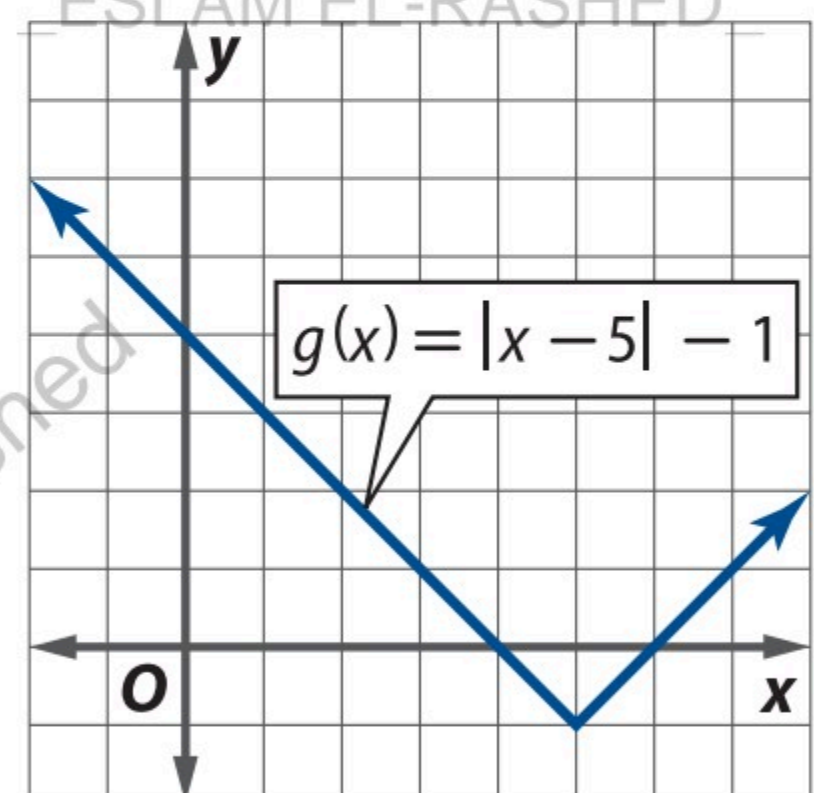
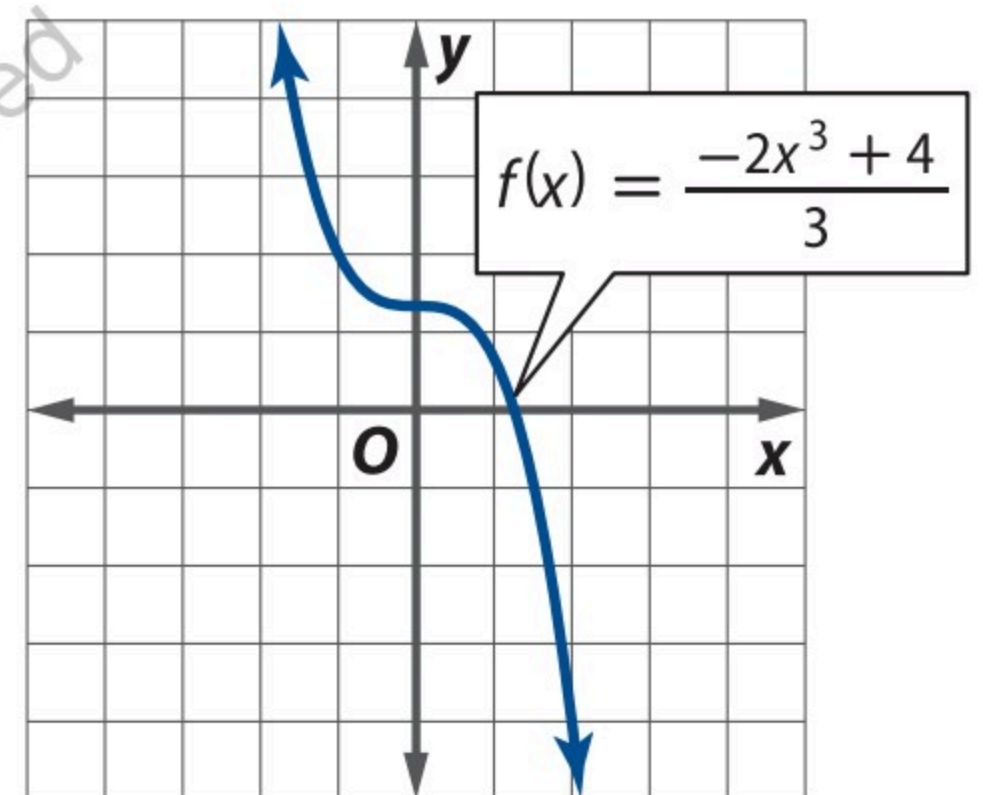
Range

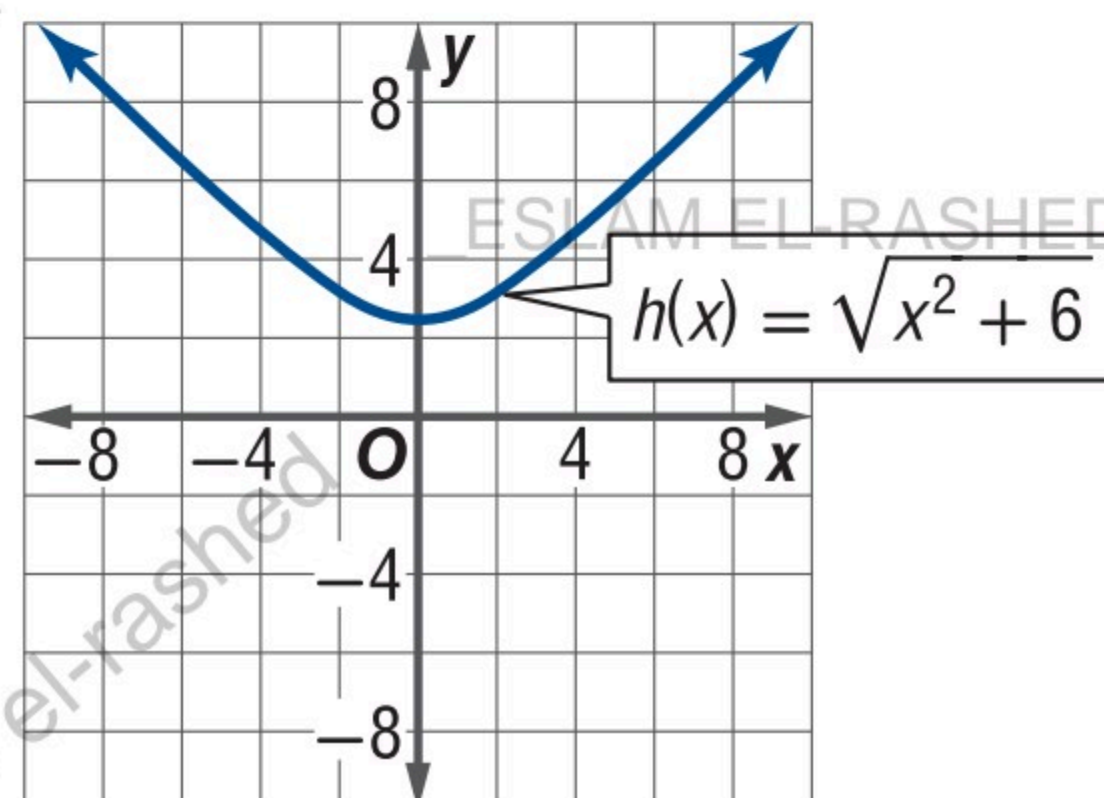
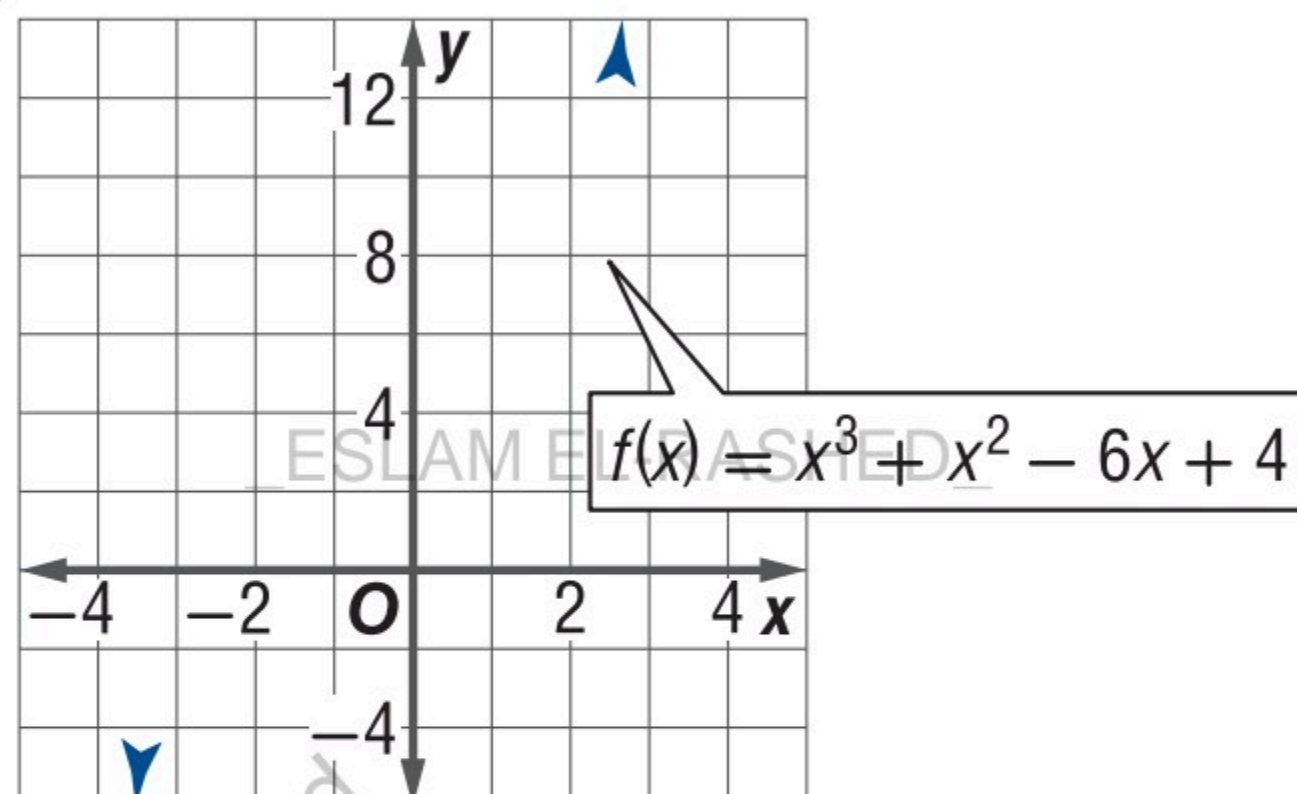


y-Intercepts



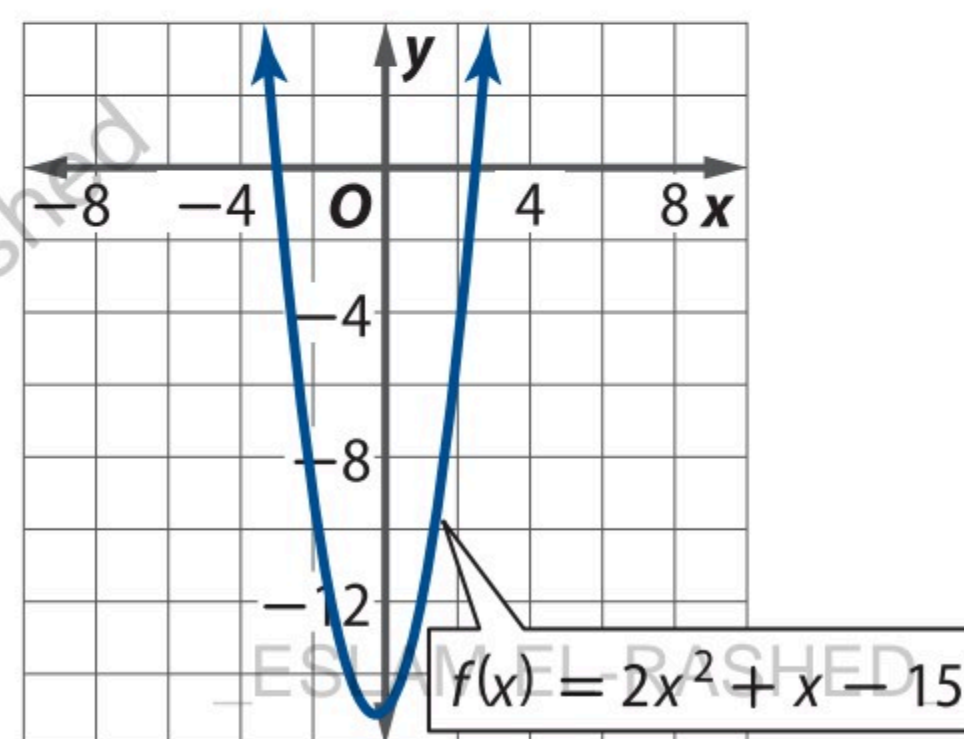
Use the graph of each function to approximate its y -intercept. Then find the y -intercept algebraically.

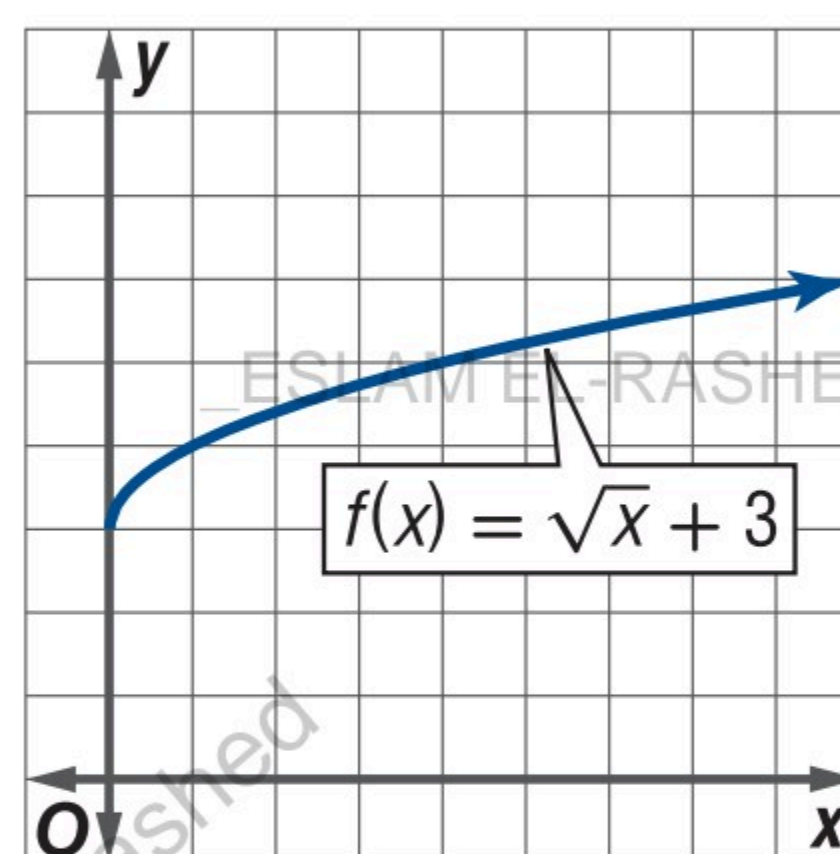
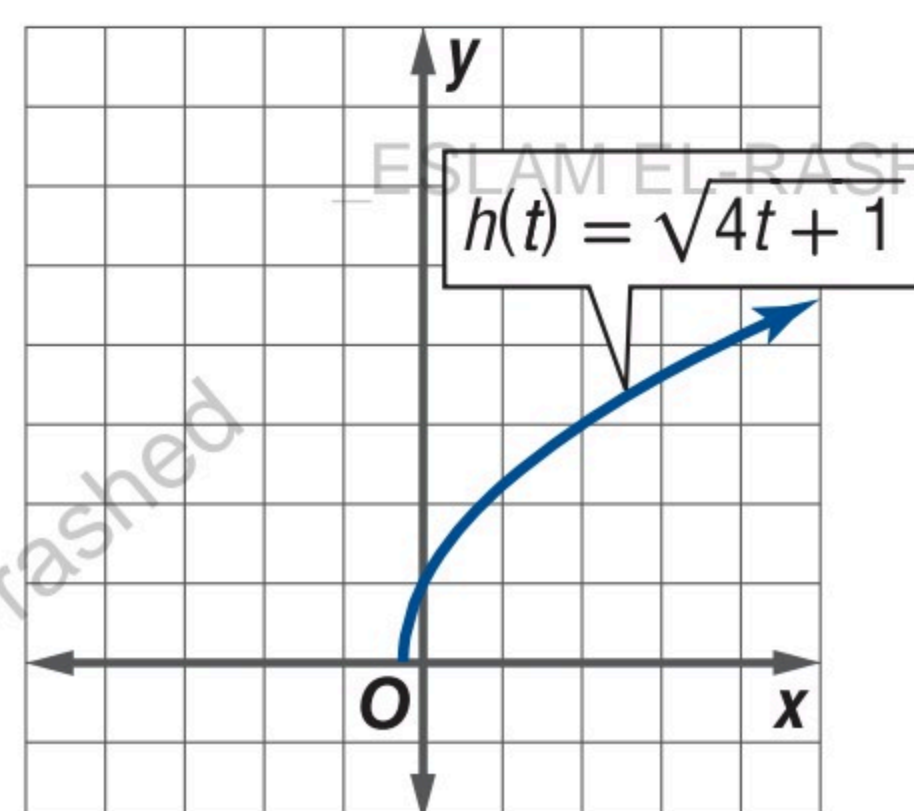
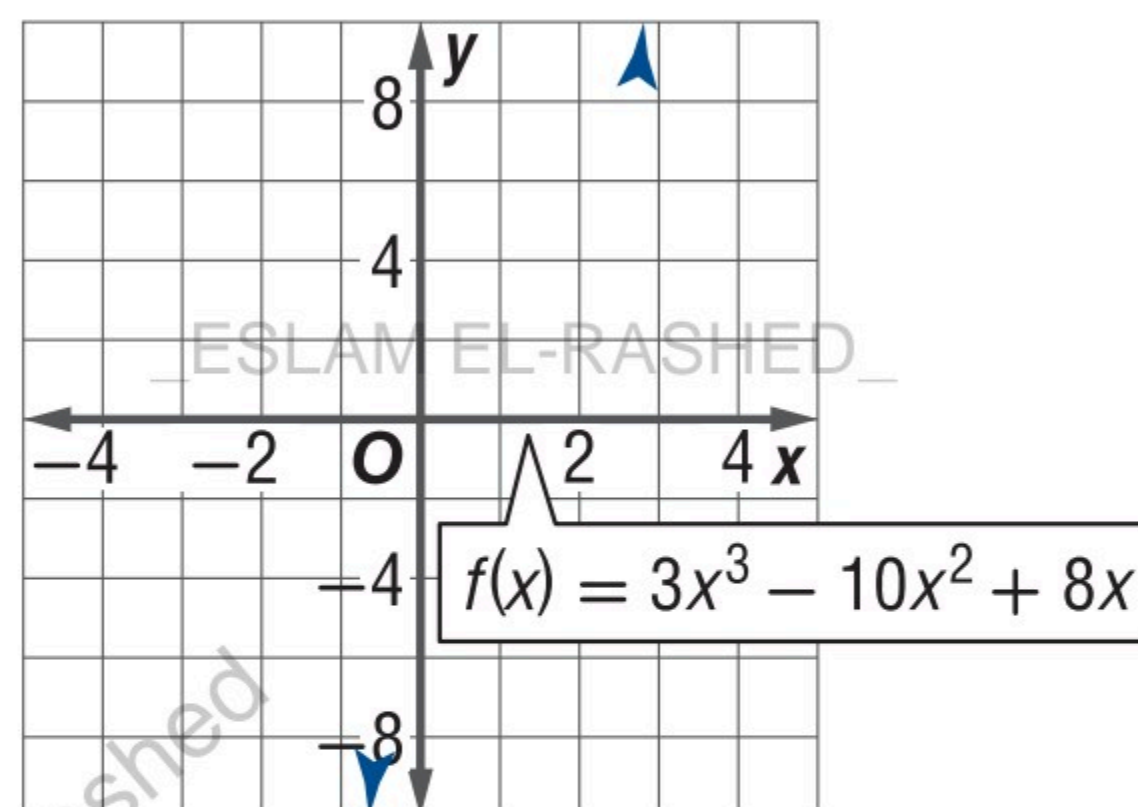




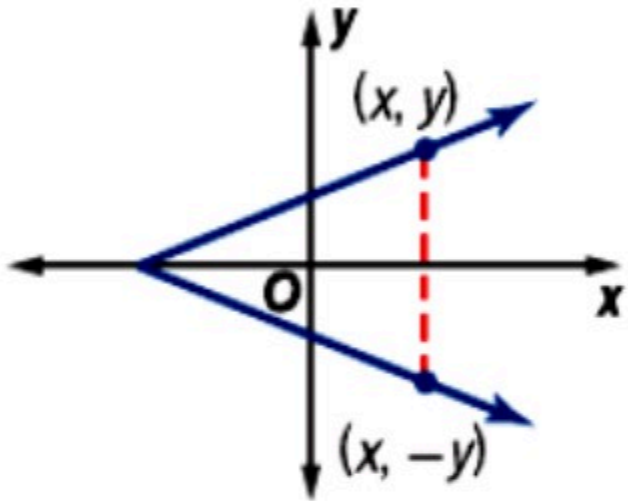
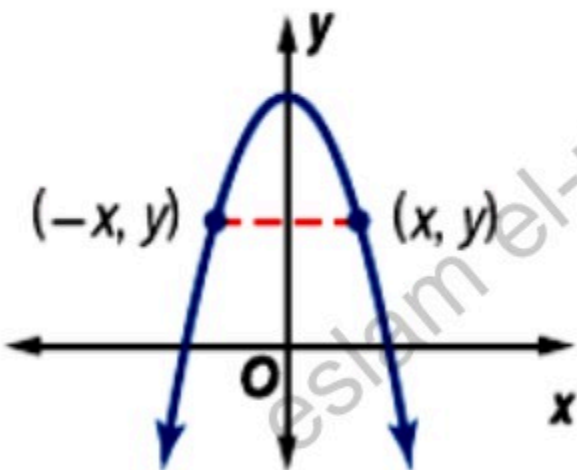
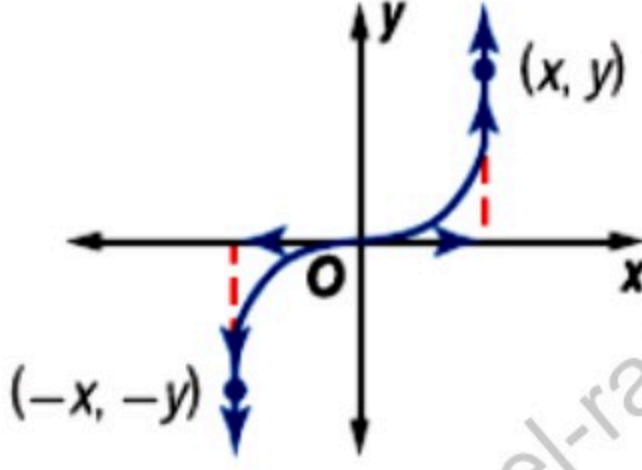
zeros of a function.

Use the graph of each function to find its y -intercept and zero(s). Then find these values algebraically.

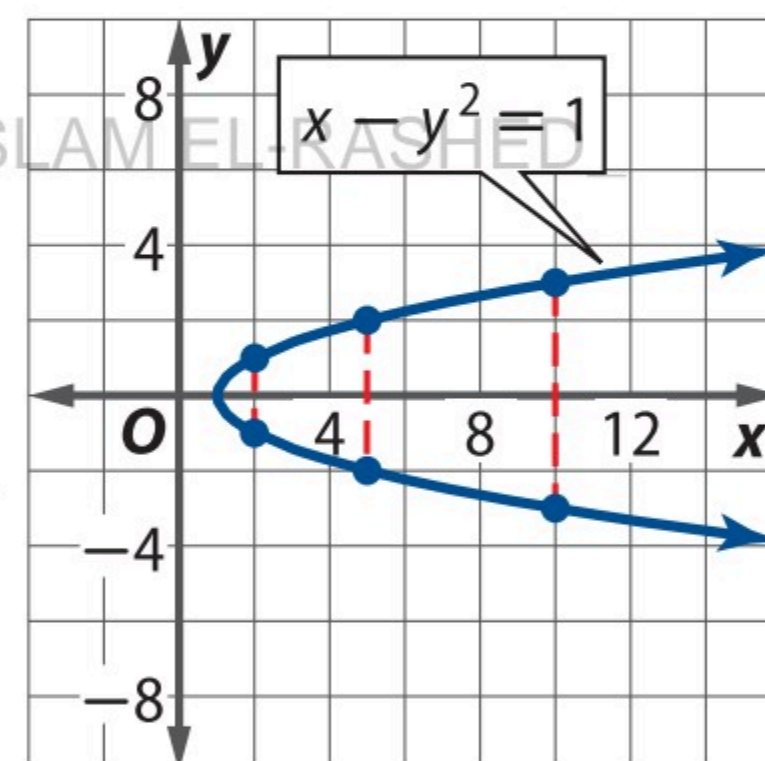


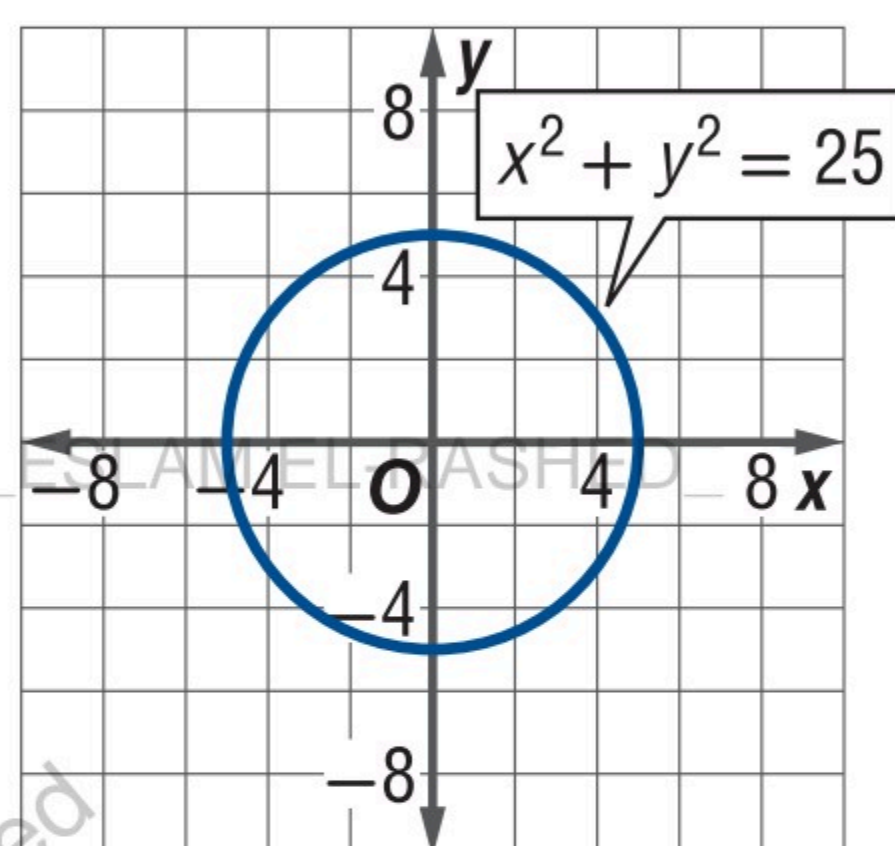
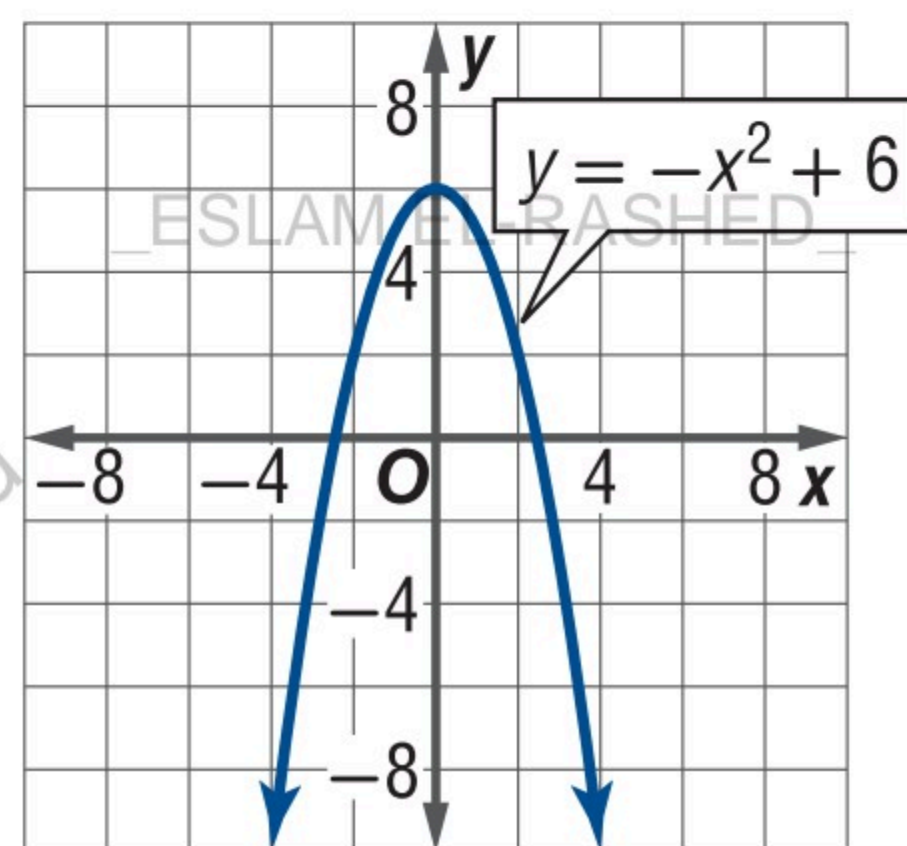
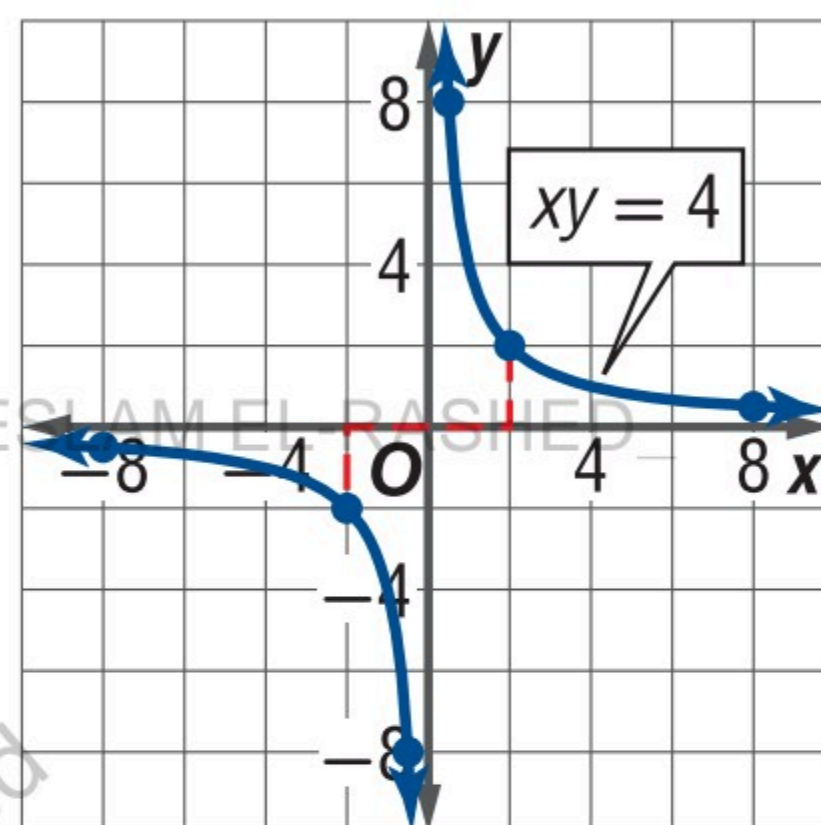


Key Concept Tests for Symmetry

Graphical Test	Model	Algebraic Test
The graph of a relation is <i>symmetric with respect to the x-axis</i> if and only if for every point (x, y) on the graph, the point $(x, -y)$ is also on the graph.		Replacing y with $-y$ produces an equivalent equation.
The graph of a relation is <i>symmetric with respect to the y-axis</i> if and only if for every point (x, y) on the graph, the point $(-x, y)$ is also on the graph.		Replacing x with $-x$ produces an equivalent equation.
The graph of a relation is <i>symmetric with respect to the origin</i> if and only if for every point (x, y) on the graph, the point $(-x, -y)$ is also on the graph.		Replacing x with $-x$ and y with $-y$ produces an equivalent equation.

Use the graph of each equation to test for symmetry with respect to the x -axis, y -axis, and the origin. Support the answer numerically. Then confirm algebraically.





KeyConcept Even and Odd Functions

Type of Function	Algebraic Test
Functions that are symmetric with respect to the y-axis are called even functions .	For every x in the domain of f , $f(-x) = f(x)$.
Functions that are symmetric with respect to the origin are called odd functions .	For every x in the domain of f , $f(-x) = -f(x)$.

determine whether each function is even, odd, or neither.

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

b. $g(x) = x^4 + 2$

c. $h(x) = x^3 - 0.5x^2 - 3x$

$$f(x) = x^2 + 6x + 10$$

$$f(x) = -2x^3 + 5x - 4$$

$$g(x) = \sqrt{x + 6}$$

$$h(x) = \sqrt{x^2 - 9}$$

$$h(x) = |8 - 2x|$$

$$f(x) = |x^3|$$

$$f(x) = \frac{x + 4}{x - 2}$$

$$g(x) = \frac{x^2}{x + 1}$$