

Instructions: Show all work. Use exact answers. Be sure to answer all parts of each question.

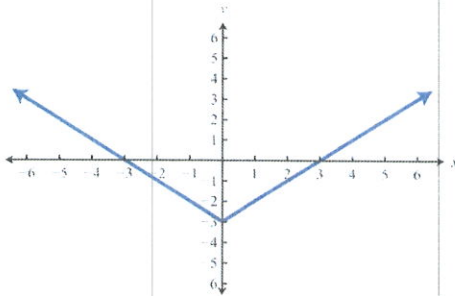
1. Is the relation a function? Find the domain and range.

a. $\{(3,4), (2,-1), (4,9), (10,-7), (5,-1)\}$

$D: \{3, 2, 4, 10, 5\}$

$R: \{4, -1, 9, -7\}$

function



function

$D: (-\infty, \infty)$

$R: [-3, \infty)$

b.

2. Find $h(-1), h(0), h(4)$ for the function $h(x) = 2x^2 + 3$.

$h(-1) = 2(-1)^2 + 3 = 2 + 3 = 5$

$h(0) = 3$

$h(4) = 2(4)^2 + 3 = 32 + 3 = 35$

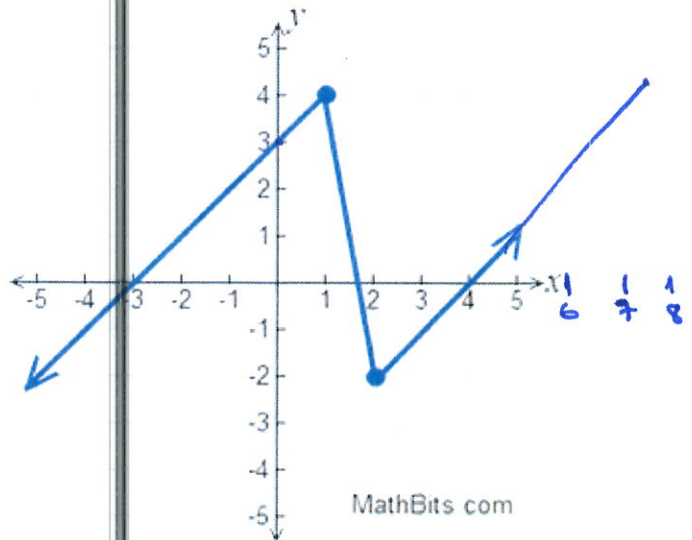
3. For the graph below, find

a. $f(0) = 3$

b. $f(1) = 4$

c. $f(x) = 0, x = ?$ $-3, 1.75, 4$

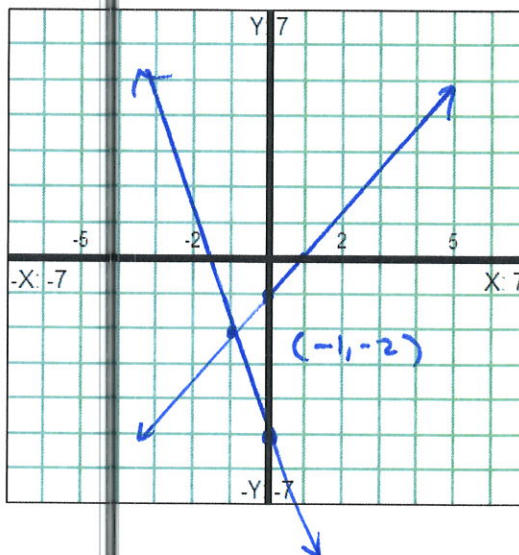
d. $f(x) = 4, x = ?$ $1, 8$ approx.



4. Solve each system by graphing. Clearly state the solution.

a.
$$\begin{cases} y = x - 1 \\ y = -3x - 5 \end{cases}$$

$(-1, -2)$



b.
$$\begin{cases} 2x - y = 6 \\ y = 2 \end{cases}$$

$(4, 2)$

