

A) Find the *domain* of $f(x) = \frac{1}{x+7}$. This question is simply asking you to figure out 'which x values can be used for this equation'. Your solution should display all of the "valid" x-values (inputs) that will result with a y-value (output). Show work.

Since you can't divide by 0, we look at when $x+7$ would equal 0.

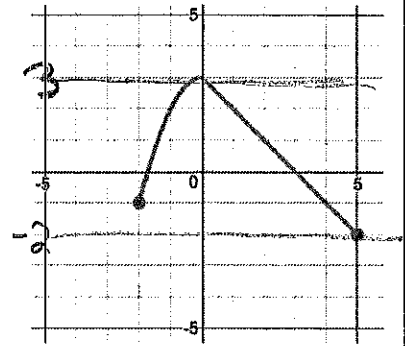
$$x+7=0$$

$$\begin{array}{r} x+7=0 \\ -7 \quad -7 \\ \hline x=-7 \end{array}$$

Answer: $D: \{x \mid x \neq -7\}$

B) Find the *range* of the function graphed below. This question is asking you to display all of the possible y-values that this equation uses.

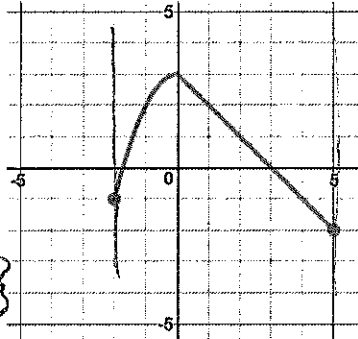
I'm looking at all of the output (y) values here.



$R: \{y \mid -2 \leq y \leq 3\}$

C) Find the *domain* of the function graphed below. This question is asking you to display all of the possible x-values this equation uses.

I'm looking at all of the x-values



$D: \{x \mid -2 \leq x \leq 5\}$

D) Suppose $g(x) = 3x - 9$. Evaluate $g(3)$. This question is asking you to plug in 3 for x and display the result.

$$g(3) = 3(3) - 9$$

$$= 9 - 9$$

$$g(3) = 0$$

F)

E) Suppose $h(x) = 3x - 9$. Solve $h(x) = 50$. This question is asking you to solve for x by setting up an equation where $h(x)$ is replaced with 50. Do not substitute 50 for x.

$$50 = 3x - 9$$

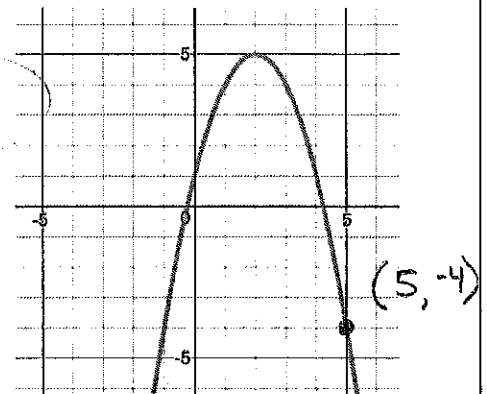
$$\begin{array}{r} 50 = 3x - 9 \\ +9 \quad +9 \end{array}$$

$$\frac{59}{3} = \frac{3x}{3}$$

$$\frac{59}{3} = x$$

F) The graph of $m(x)$ is below. Evaluate $m(5)$. This question is asking you to determine the output (y-value) when $x=5$. What is the value of the graph at $x=5$?

$$m(5) = -4$$



$(5, -4)$
x y

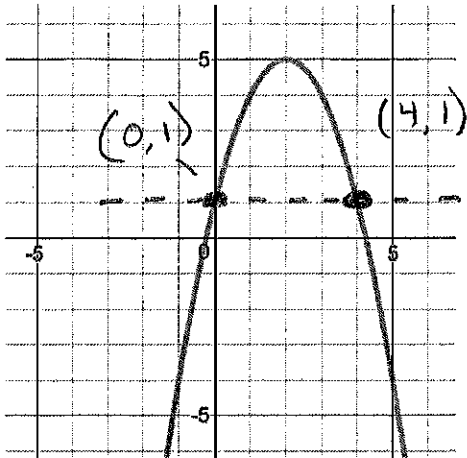
This point is on the graph.

G)

7) The graph of $m(x)$ is below. Solve $m(x) = 1$. This question is asking you to find all the x -values that produce an output (y -value) of 1.

$$m(x) = 1$$

$$x = \{0, 4\}$$



H)

8) Determine if the following relation is a function. This question is asking if every input (x -value) has exactly one output (y -value) associated with it.

$$\{(3,4), (4,9), (6,7), (2,9), (4,10)\}$$

No, it is not a function because the input (4) has two different outputs (9 and 10)