

## Review Exercise Set 15

Exercise 1: State the domain and range for the following function.

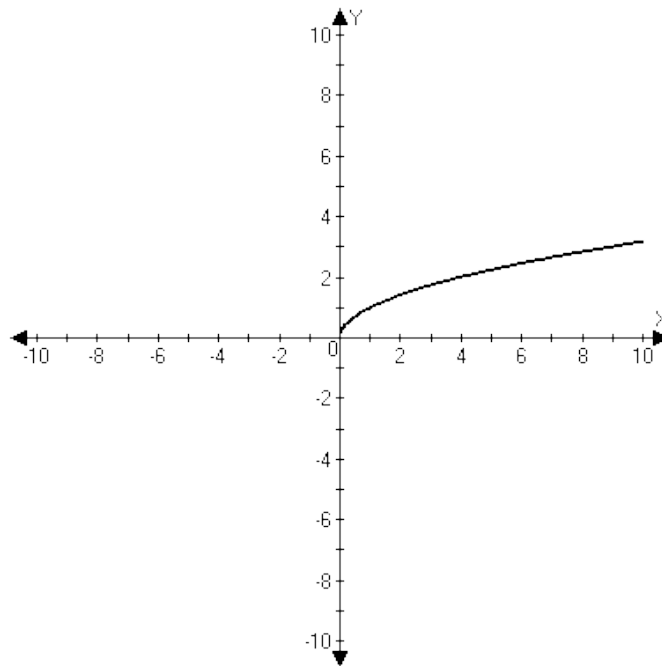
$$g(x) = \sqrt[3]{-x}$$

Exercise 2: State the domain and range for the following function.

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

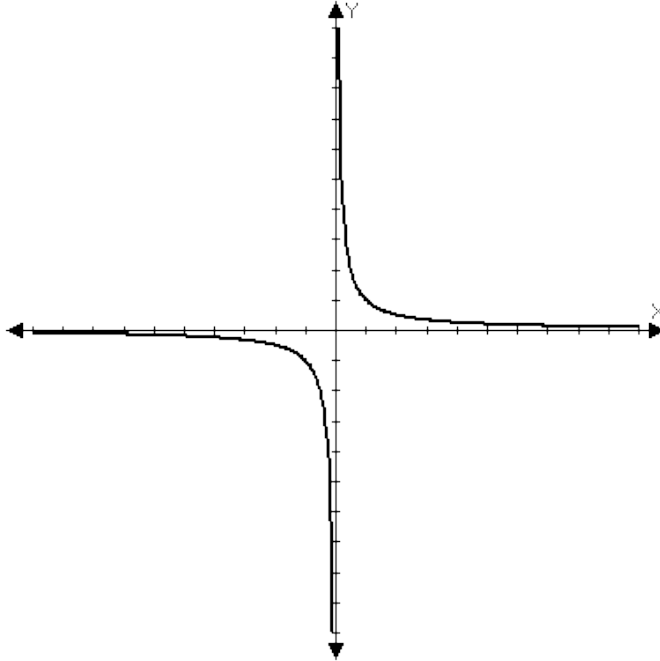
Exercise 3: Given the graph of  $f(x)$ , use the technique of reflection to graph:

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



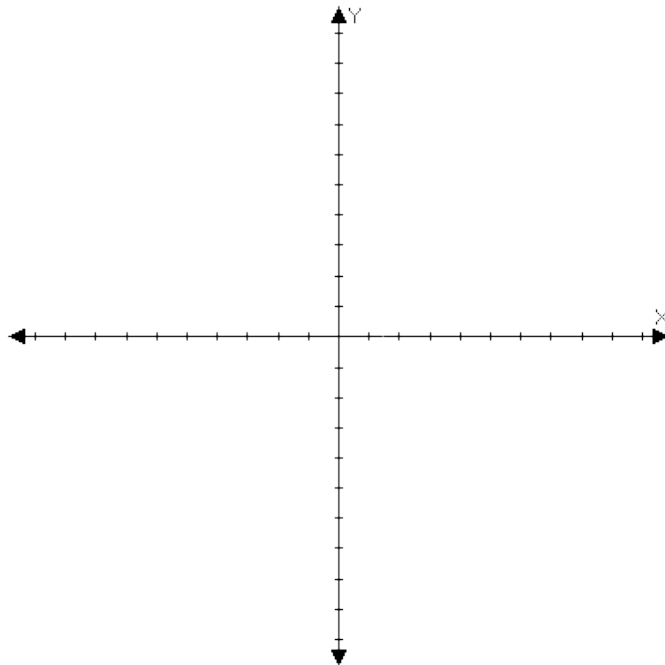
Exercise 4: Given the graph of  $f(x)$ , use the technique of reflection to graph:

$$f(x) = -\frac{1}{x}$$



Exercise 5: Starting with the graph of  $f(x) = |x|$ , use the technique of reflection to graph:

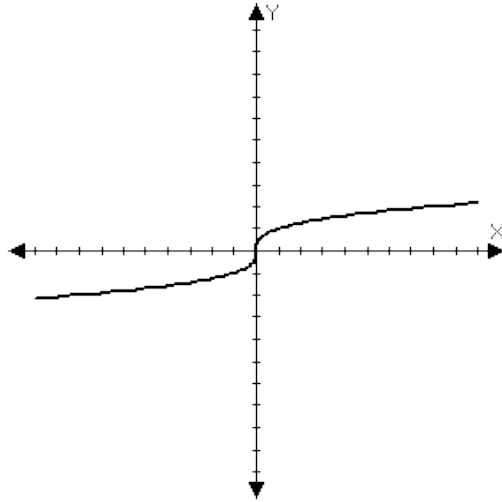
$$f(x) = -|-x|$$



## Review Exercise Set 15 Answer Key

Exercise 1: State the domain and range for the following function.

$$g(x) = \sqrt[3]{-x}$$



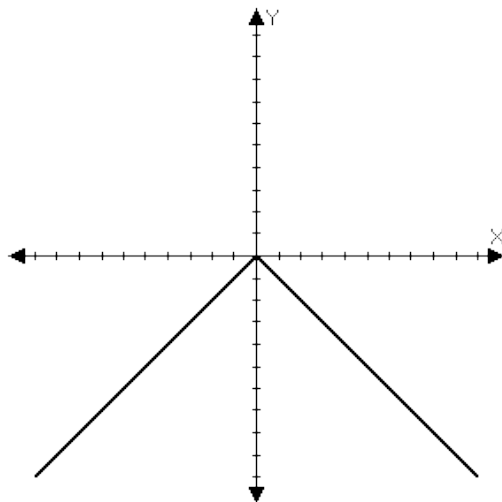
As we can see from the graph of the function, that the domain and range are defined for all real numbers.

Domain = All real numbers

Range = All real numbers

Exercise 2: State the domain and range for the following function.

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



Exercise 2 (Continued):

As we can see from the graph of the function, the domain is defined for all real numbers but the range is only defined for numbers less than or equal to zero.

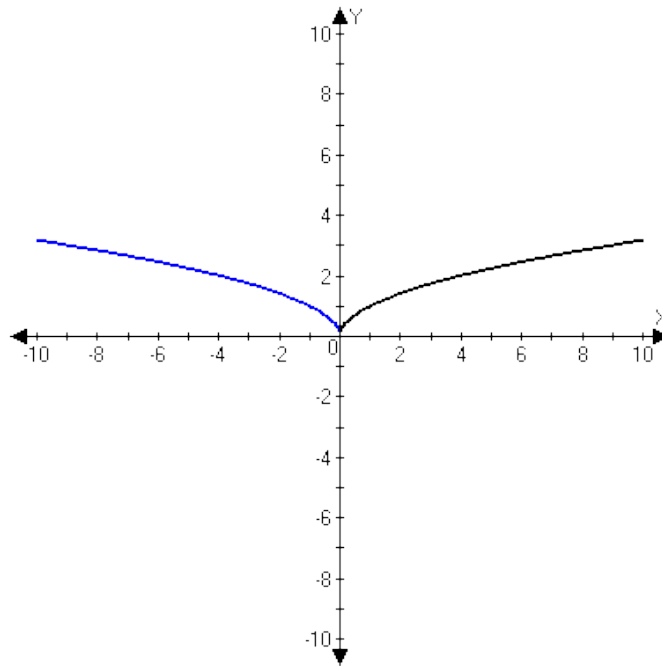
Domain = All real numbers

Range =  $[0, \infty]$

Exercise 3: Given the graph of  $f(x)$ , use the technique of reflection to graph:

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

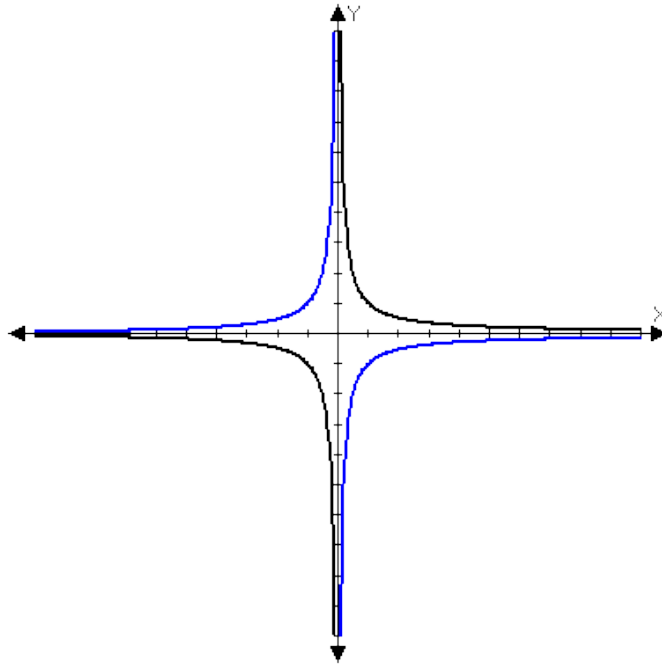
Since the negative sign is inside the square root this would be an example of  $f(-x)$  and its graph would be a reflection about the  $y$ -axis.



Exercise 4: Given the graph of  $f(x)$ , use the technique of reflection to graph:

$$f(x) = -\frac{1}{x}$$

Since the negative sign is out in front of the fraction this would be an example of  $-f(x)$  and its graph would be a reflection about the x-axis.



Exercise 5: Starting with the graph of  $f(x) = |x|$ , use the technique of reflection to graph:

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

In this function, there is a negative sign both inside and outside of the absolute value symbol so this is an example of  $-f(-x)$  and its graph would be a reflection about the  $x$ - and  $y$ -axis.

