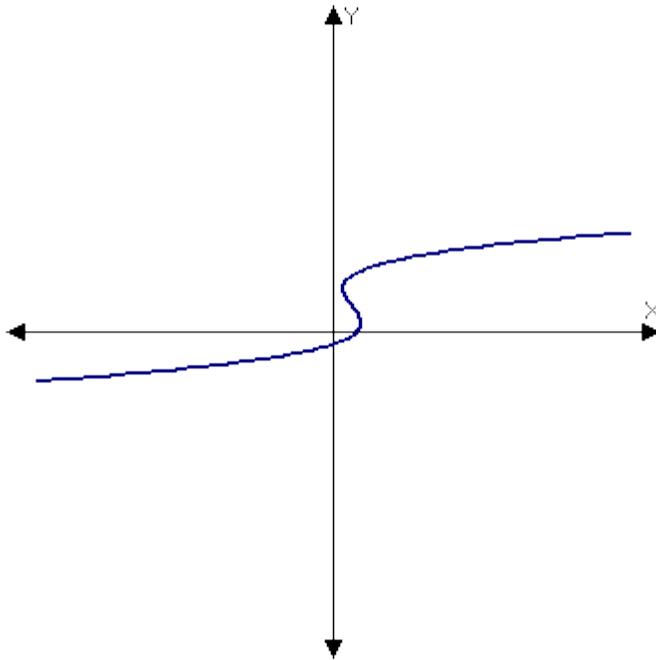


Review Exercise Set 11

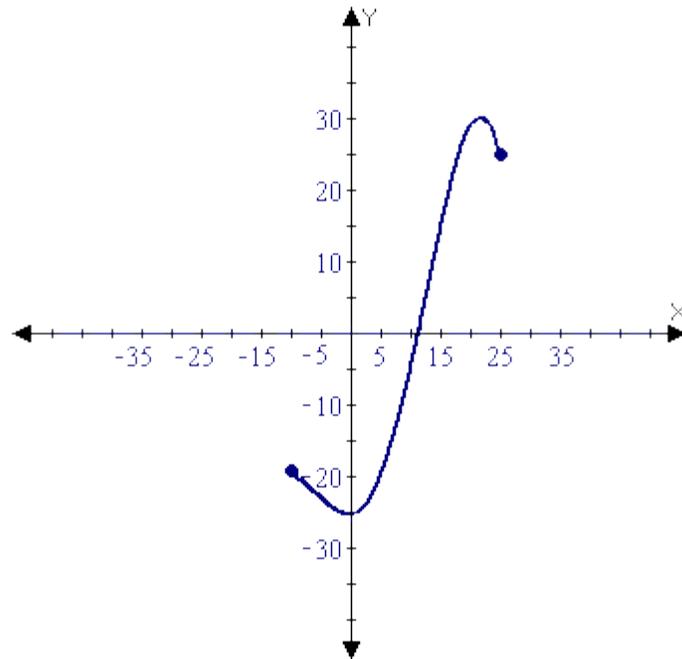
Exercise 1: Determine if the following relation is a function. Also state the domain and range.

$$\{(2, 5), (3, -4), (5, 7), (6, -3), (2, -1)\}$$

Exercise 2: Use the vertical line test to determine if the following graph is of a function.



Exercise 3: State the domain and range of the function in the following graph.



Exercise 4: Evaluate the function at the indicated value.

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

$$f(-2) = ?$$

Exercise 5: The area of a rectangle is $A = lw$. If the length of a rectangle is 10 inches, then express the area as a function of the width. Using the area function, determine area of a rectangle that has a width of 8 inches.

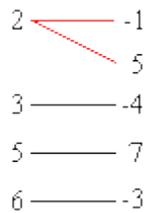
Review Exercise Set 11 Answer Key

Exercise 1: Determine if the following relation is a function. Also state the domain and range.

$$\{(2, 5), (3, -4), (5, 7), (6, -3), (2, -1)\}$$

Function: No

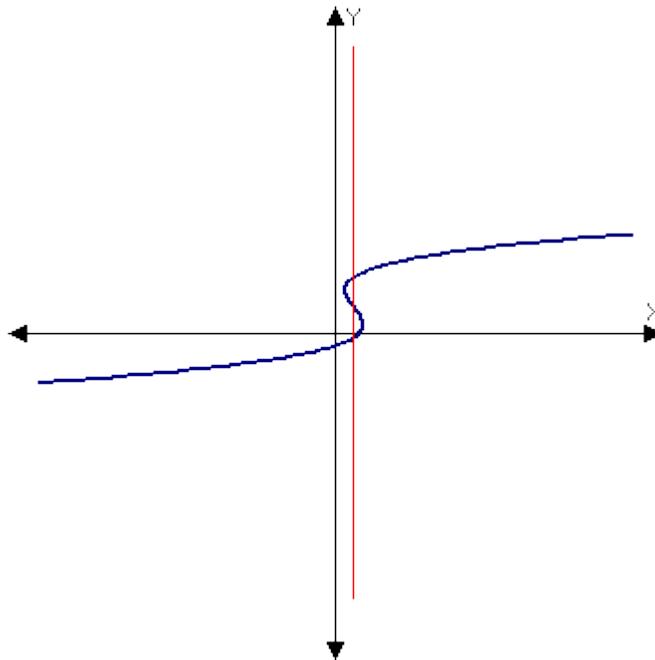
The relation is not a function because each element in the domain does not correspond to exactly one element in the range.



Domain: {2, 3, 5, 6}

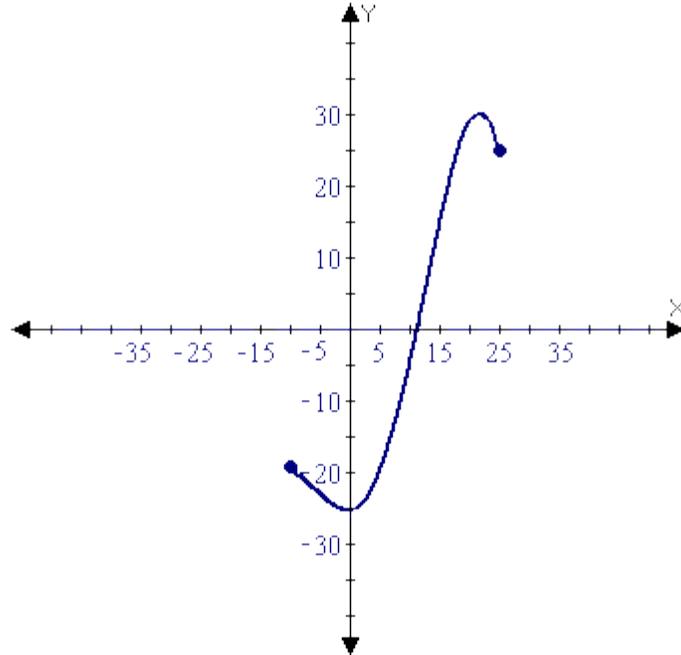
Range: {-4, -3, -1, 5, 7}

Exercise 2: Use the vertical line test to determine if the following graph is of a function.



This is not a function because the vertical line crosses the graph at three points.

Exercise 3: State the domain and range of the function in the following graph.



Domain: [-10, 25] (farthest point on the left to the farthest point on the right)

Range: [-25, 30] (lowest point to the highest point)

Exercise 4: Evaluate the function at the indicated value.

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

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

$$f(-2) = 2(-8) - 3(4) - 2 - 5$$

$$f(-2) = -16 - 12 - 7$$

$$f(-2) = -35$$

Exercise 5: The area of a rectangle is $A = lw$. If the length of a rectangle is 10 inches, then express the area as a function of the width. Using the area function, determine area of a rectangle that has a width of 8 inches.

$$A = lw$$

$$A(w) = 10w$$

$$A(w) = 10w$$

$$A(8) = 10(8)$$

$$A(8) = 80$$

The area of the rectangle is 80 square inches.