Math 3 Honors: Unit 1 Day 5 – Inverse Functions

Example 1: Determine if the given relation, S, is a function. State the domain and range.

$S: \{(-1, 2), (1, 6), (-4, 5), (2, -6), (0.5, 2)\}$

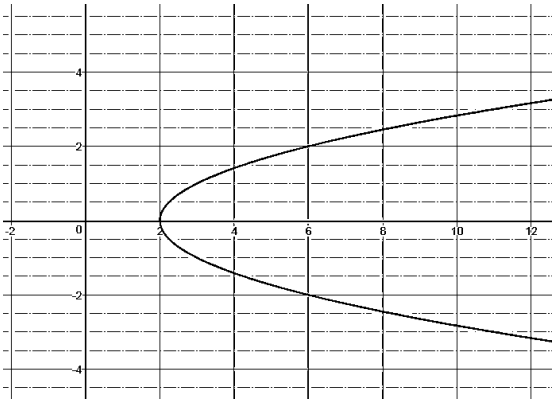
D: _____

R: _____

Is it a function? Circle **YES** or **NO**

Find the inverse: _____

Example 2: Determine if the graph is a function. State the domain and range.



D: _____

R: _____

Is it a function? Circle **YES** or **NO**

Example 3: Determine if the equation is a function. State the domain and range and find the inverse.

$y = -\frac{1}{2}x + 4$

Find the inverse:

D: _____

R: _____

Is it a function? Circle **YES** or **NO**

Is the inverse a function? Circle **YES** or **NO**

Find $y^{-1}(5) =$ _____

Example 4: Determine if the equation is a function. State the domain and range and find the inverse.

$y = \sqrt{2x - 4}$ Find the inverse:

D: _____

R: _____

Is it a function? Circle **YES** or **NO**

Is the inverse a function? Circle **YES** or **NO**

D^{-1}: _____

R^{-1}: _____

Find $y^{-1}(0) =$ _____

Example 5: Suppose $g(x) = .05x + 2.50$ represents the price that gas has increased per year since 1990 (where 1990 represents x = 0).

a. Find g(10).

b. What does the answer in part "a" mean in the context ofd the problem?

c. Find the inverse of g(x).

d. Find $g^{-1}(5.50)$.

Guided Practice:

Practice Problem #1: Determine if the equation is a function. State the domain and range and find the inverse.

$y = x^2 + 3$ Find the inverse:

D: _____

R: _____

Is it a function? Circle **YES** or **NO**

Is the inverse a function? Circle **YES** or **NO**

D^{-1}: _____

R^{-1}: _____

Find $y^{-1}(0) =$ _____

Practice Problem #2: Determine if the equation is a function. State the domain and range and find the inverse.

$y = -x^3 + 2$ Find the inverse:

D: _____

R: _____

Is it a function? Circle **YES** or **NO**

Is the inverse a function? Circle **YES** or **NO**

D^{-1}: _____

R^{-1}: _____

Find $y^{-1}(4) =$ _____