

Math 3 Honors – Inverse WS

Name: \_\_\_\_\_

Date: \_\_\_\_\_

For 1-5, find the inverse of each function. Is the inverse a function?

1)  $y = 3x + 1$

2)  $y = 4 - 3x$

3)  $y = x^2 + 4$

Inverse:

Inverse:

Inverse:

Function?

Function?

Function?

4)  $y = (x + 1)^2$

5)  $y = (1 - 2x)^2 + 5$

Inverse:

Inverse:

Function?

Function?

For 6-8, for each function  $f$ , find  $f^{-1}$  and the domain and range of  $f$  and  $f^{-1}$ . Determine whether  $f^{-1}$  is a function.

6)  $f(x) = 3x + 4$

7)  $f(x) = \sqrt{x + 7}$

8)  $f(x) = 2x^2 + 2$

$f$ : Domain:

Range:

$f$ : Domain:

Range:

$f$ : Domain:

Range:

$f^{-1}$ ?

$f^{-1}$ ?

$f^{-1}$ ?

$f^{-1}$ : Domain

Range:

Function?

$f^{-1}$ : Domain

Range:

Function?

$f^{-1}$ : Domai

Range:

Function?

9) The formula for converting from Celsius to Fahrenheit temperatures is  $C = \frac{9}{5}F + 32$ .

a) Find the inverse of the formula. Is the Inverse a function?

b) Use the inverse to find the Fahrenheit temperature that corresponds to  $25^{\circ}\text{C}$ .

For 10-14, find the inverse of each function. Is the inverse a function?

10)  $f(x) = 1.5x^2 - 4$

11)  $f(x) = \sqrt{2x-1} + 3$

12)  $f(x) = (2x-1)^2$

Inverse:

Inverse:

Inverse:

Function?

Function?

Function?

13)  $f(x) = x^3$

14)  $f(x) = \frac{2x^2}{5} + 1$

Inverse:

Inverse:

Function?

Function?