

GSE Honors Algebra II

REDO TEST – IN ORDER TO QUALIFY FOR A REDO, THIS REVIEW SHEET MUST BE COMPLETED AND UPLOADED INTO CTLS ASSIGNMENTS (TEST REDO WORK) BY 7 AM ON WEDNESDAY, DECEMBER 9. THE REDO TEST WILL BE OPEN ON DECEMBER 9 FROM 8 AM – 4 PM.

Name \_\_\_\_\_

Inverse Functions and Function Composition REVIEW

Date \_\_\_\_\_ Period \_\_\_\_\_

**Part I – Functions and Relations**

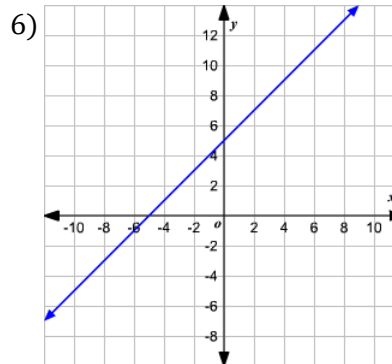
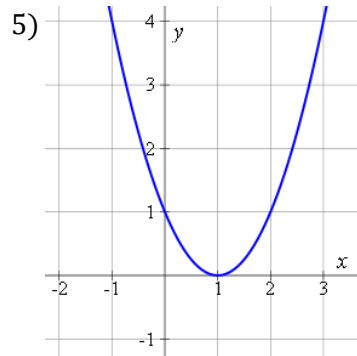
1. A function is a special type of relationship where each \_\_\_\_\_ has only one \_\_\_\_\_. All functions will pass the \_\_\_\_\_ line test.

2. A function is called “one-to-one” if and only if each element in the domain maps to a unique element in the \_\_\_\_\_. All one-to-one functions will pass the \_\_\_\_\_ line test.

For questions 3-6, determine if the relation is a function and if it is one-to-one.

3) (1,2), (2,3), (5,6)

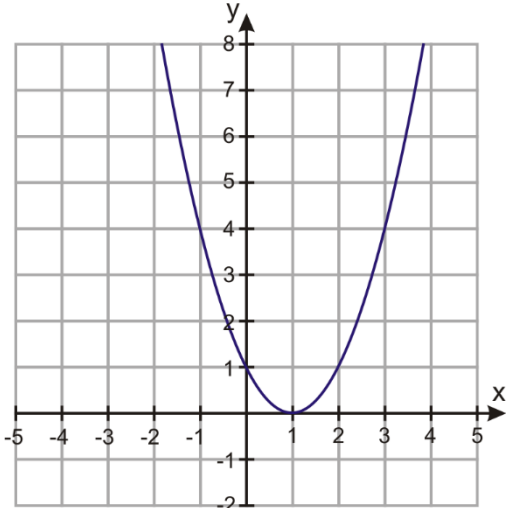

4) (1,1), (2,1), (3,1)



**Part II - Inverses**

For questions 7-14, find the inverse of the given function. For the graphs, graph the inverse.

7) $y = 2x - 7$	8) $f(x) = \frac{x - 4}{3}$
9) $y = x^2 + 1$	10) $g(x) = \sqrt[3]{2x - 5} + 9$

11) $y = \frac{7}{2+x}$	12) $f(x) = 3x^3$
13) 	14) 

For Questions 15-18, determine if the functions are inverses using composition.

15)  $f(n) = \frac{-16+n}{4}$   
 $g(n) = 4n + 16$

$f(x) = 2x + 6$   
16)  $g(x) = \frac{1}{2}x - 3$

17)  $f(x) = 9 - \frac{1}{3}x$   
 $g(x) = 3x + 3$

18)  $h(x) = \sqrt[3]{2x+5} - 1$   
 $r(x) = (2x-1)^3 - 5$

For questions 19-22, complete the compositions given:

$$f(x) = 7x - 3 \quad g(x) = x^2 + 5x - 1 \quad h(x) = \frac{1}{3}x + 10$$

19) $f(h(9)) =$	20) $(g \circ f)(2)$
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21)  $f(g(x))$

22)  $(h \circ g)(x)$