Adv Alg

Name_______________________________
Date_________________________Pd____

# INVERSE FUNCTION PRACTICE II

1. Fill in the table of the inverse.

| x | -1 | 0 | 2 | 3 | 4 |
|---|---|---|---|---|---|
| *f(x)* | 3 | 1 | -1 | -7 | 9 |

| x | | | | | |
|---|---|---|---|---|---|
| $f^{1}(x)$ | | | | | |

2. Write the inverse of the relation.

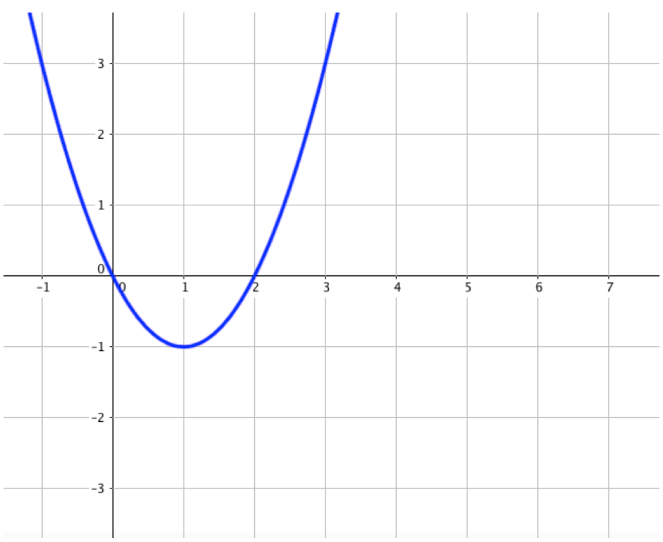
$$S_1 = \{(-11,2),(-2,0),(1,2),(4,-5),(-1,-4),(5,-6)\}$$

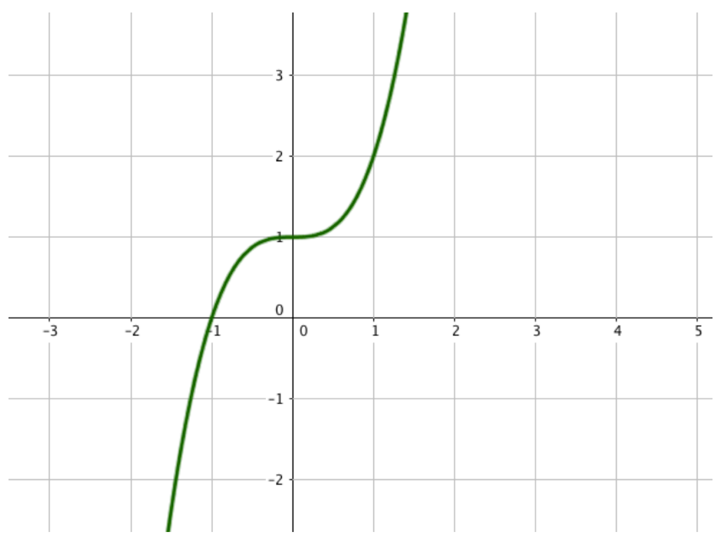
$S_1^{-1} = \{$ $\}$

a) Is $S_1$ a function? ____________

b) Is $S_1^{-1}$ a function? ____________

3. Sketch the inverse of the graph. State whether the inverse is a function.




Is the inverse a function? ________

Is the inverse a function? _______

For problems 4-6, think about the inverse graph of the parent functions.

4. Is the inverse of a quadratic function a function? ____________

5. Is the inverse of a linear function a function? ______________

6. Is the inverse of the cubic function a function? ______________

7. If the domain of $h(x)$ is $(-\infty, 0)$ and the range of $h(x)$ is $[0, \infty)$, then the domain of $h^{-1}(x)$ is ________________ and the range of $h^{-1}(x)$ is ___________________.

8. Given the function $g(x) = x^2 - 2$, the domain is _______________ and range is ________________. In turn, the domain of $g^{-1}(x)$ is ___________________ and the range of $g^{-1}(x)$ is _________________.

9. Given the function $h(x) = -x^2$, the domain is _______________ and range is ________________. In turn, the domain of $h^{-1}(x)$ is ___________________ and the range of $h^{-1}(x)$ is _________________.

10. Find the inverse functions & state whether the inverse is a function or not.

a. $f(x) = 2 - x^3$

d. $k(x) = x^2 + 3$

b. $g(x) = \sqrt{x - 1}$

e. $F(x) = \frac{2}{x}$

c. $h(x) = \sqrt[3]{x + 1}$

f. $G(x) = x^2 + 3$

11. Find the inverse of $g(x) = -4x + 1$. State the y-intercept and slope of the inverse function.

y-intercept = ________

slope = ___________

12. Find the inverse of $k(x) = 3x - 7$. State the y-intercept and slope of the inverse function.

y-intercept = __________

slope = ____________

<u>MULTIPLYING BY THE RECIPROCAL</u>

Solve for $y$. Multiply by the reciprocal as a tool to isolate $y$.

13. $x = \frac{6-y}{5}$

15. $x = \frac{y-2}{4}$

14. $x = \frac{4}{3}y - \frac{1}{3}$

16. $x = \frac{y}{2} + \frac{8}{2}$