

# Inverse of a Function - Practice Worksheet

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

**Instructions:** Find the inverse of each function. Show your steps: replace  $f(x)$  with  $y$ , swap  $x$  and  $y$ , then solve for  $y$ . Write your final answer as  $f^{-1}(x)$ .

1.  $f(x) = x + 5$

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2.  $f(x) = 3x$

.....

3.  $f(x) = 2x - 7$

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4.  $f(x) = x/4 + 1$

.....

5.  $f(x) = 5x + 2$

.....

6.  $f(x) = x^2 + 3, x \geq 0$

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7.  $f(x) = (x - 1)^2, x \geq 1$

.....

8.  $f(x) = 1/x$

.....

9.  $f(x) = (2x + 1)/(x - 3), x \neq 3$

.....

10.  $f(x) = x^3 - 4$

.....

## Answer Key

1.  $f^{-1}(x) = x - 5$

2.  $f^{-1}(x) = x/3$

3.  $f^{-1}(x) = (x + 7)/2$

4.  $f^{-1}(x) = 4(x - 1) = 4x - 4$

5.  $f^{-1}(x) = (x - 2)/5$

6.  $f^{-1}(x) = \sqrt{x - 3}, x \geq 3$

7.  $f^{-1}(x) = \sqrt{x} + 1, x \geq 0$

8.  $f^{-1}(x) = 1/x$

9.  $f^{-1}(x) = (3x + 1)/(x - 2), x \neq 2$

10.  $f^{-1}(x) = (x + 4)^{1/3}$