

PROBLEM SET 7-7
(Inverse Relations and Functions)

Find the inverse of each function. Is the inverse a function?

1. $f(x) = 3x + 1$

2. $f(x) = 2x - 1$

3. $f(x) = x^2 + 4$

4. $f(x) = 3x^2 - 5$

5. $f(x) = (x + 1)^2 - 1$

6. $f(x) = x^3$

If $f(x) = 10x - 10$, find each value.

7. $(f^{-1} \circ f)(10)$

8. $(f \circ f^{-1})(-10)$

Graph each function and its inverse.

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

10. $f(x) = \frac{1}{2}x + 4$

11. $f(x) = x^2$

12. $f(x) = (x - 1)^2 - 4$