

4.1 WS

Use composition of functions to determine whether f and g are inverses of one another.

1. $f(x) = 2x + 7$; $g(x) = \frac{1}{2}x - \frac{7}{2}$

2. $f(x) = -\frac{1}{2}x - \frac{1}{2}$; $g(x) = -2x + 1$

3. $f(x) = x^3 + 2$; $g(x) = \sqrt[3]{x-2}$

4. $f(x) = \frac{5}{x-3}$; $g(x) = \frac{5}{x} + 3$

Find $f^{-1}(x)$. State the domain and range of $f^{-1}(x)$.

5. $f(x) = 2x + 4$

6. $f(x) = -3x - 8$

7. $f(x) = -\frac{1}{2}x - \frac{3}{4}$

8. $f(x) = \frac{2x}{x-1}$

9. $f(x) = \frac{x-1}{x+1}$

10. $f(x) = x^2 + 1, x \geq 0$