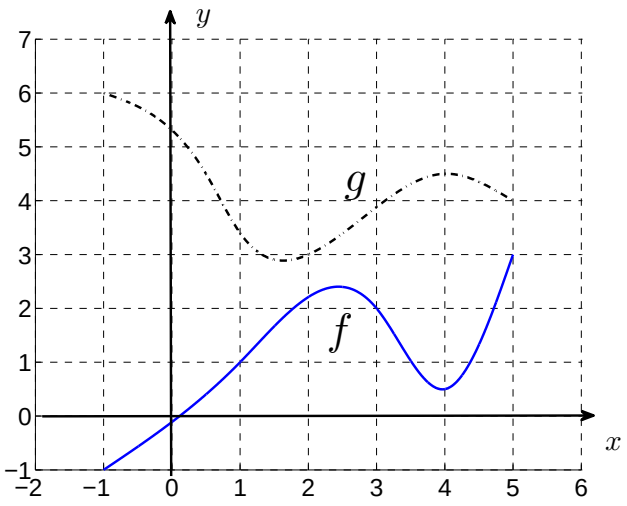
Composite Functions **Name:** _____

1. **Use the graph to find the indicated functional values.**



(a) $f(g(3))$

(b) $f(g(-1))$

(c) $g(f(3))$

(d) $g(g(3))$

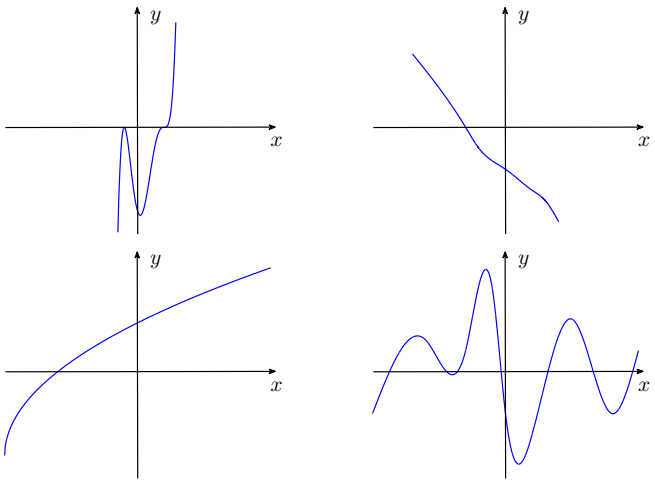
Find $f \circ g$ and $g \circ f$ and their domains.

2. $f(x) = x^2 + 7$ and $g(x) = x - 7$.

3. $f(x) = \dfrac{1}{x}$ and $g(x) = 4x - 9$.

Inverse Functions **Name:** _____

4. Determine whether each function f is one-to-one.



Determine whether f is one-to-one.

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

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

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

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

Assume that f is one-to-one

9. If $f(3) = -56$, find $f^{-1}(-56)$ and $(f(3))^{-1}$

10. If $f^{-1}(2) = 21$, find $f(21)$ and $(f^{-1}(2))^{-1}$

Find the inverse function of f.

11. $f(x) = \dfrac{3x}{x-2}$

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

13. $f(x) = x^3 + 5$