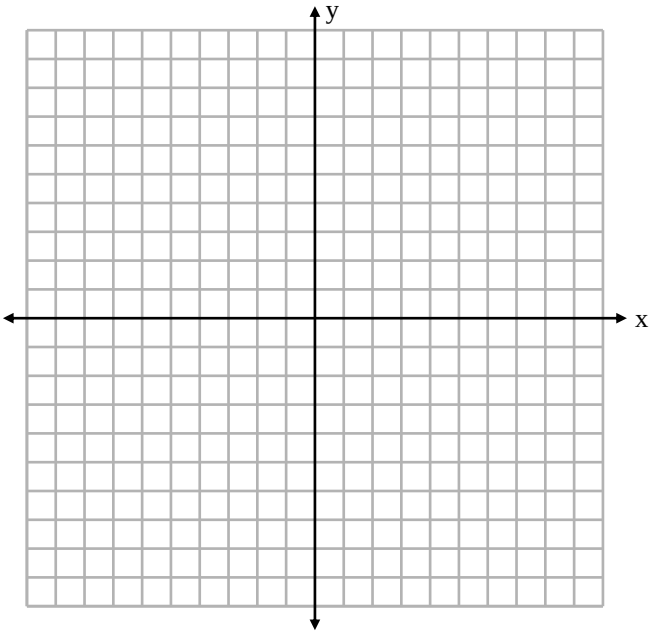
MTH 161, Quiz #3, Spring 2021 Name _____

Instructions: Show all work. Use exact answers unless otherwise asked to round.

1. Find $f \circ g$ and $g \circ g$ for $f(x) = 3x + 7, g(x) = x^2 - 1$, and state the domain of each.

2. Find the inverse function $f^{-1}(x)$ for the function $f(x) = \frac{2x-3}{x+1}$. What is the domain and range of the function and its inverse?

3. Find the inverse function of $f(x) = x^3 - 1$. Sketch the graph of f and f^{-1} on the same graph. Plot the line of symmetry.