Math 111 - Quiz 1

September 7, 2012

Instructions: Show all of your work and mark your answers clearly. Each problem is worth 5 points.

1. Find the domain of the function \( f(x) = \frac{x + 4}{x^2 - 9} \).

2. Find the domain of the function \( F(p) = \sqrt{2 - \sqrt{p}} \).
3. Let \( f(x) = 1 - 3x \) and \( g(x) = \cos x \). Find the functions \( f \circ g \), \( g \circ f \), \( f \circ f \), and \( g \circ g \). Be sure to label your answers!

4. Let \( F(x) = \frac{\sqrt[3]{x}}{1 + \sqrt[3]{x}} \). Express \( F \) as \( f \circ g \).