

**Problem 1**

Sketch  $y = \frac{1}{x^2 + 1}$ . (To be clear, this means going through all the steps on page 213 of your book "Strategy for graphing  $y = f(x)$ ." Showing your work, e.g. how you simplify your derivatives, will be the majority of the points... but your graph should be nice too!)

**Problem 2**

Sketch  $y = \frac{x^2}{x^2 - 4}$ .