

**WRITE YOUR NAME:**

MAC 2241 Homework 2

Due in class, Friday September 22nd

You can use more paper if necessary, but please STAPLE

**Question 1.** If  $f(x) = x^2$ , simplify the given expression.

$$\frac{f(3+h) - f(3)}{h}$$

**Question 2.** If  $f(x) = \frac{1}{x}$ , simplify the given expression.

$$\frac{f(5+h) - f(5)}{h}$$

**Question 3.** Find the domain of the function.

$$f(x) = \frac{x+4}{x^2-9}$$

**Question 4.** Find the domain of the function.

$$f(x) = \sqrt{3-x} - \sqrt{2+x}$$