

WRITE YOUR NAME:

MAC 2241 Homework 1

Due in class, Friday January 20th

You can use more paper if necessary, but please STAPLE

Question 1. If $f(x) = x^2$, find and simplify each of the following.

- $f(7)$
- $f(-7)$
- $f(7.02)$
- $f(7 + h)$
- $f(7) + h$

Question 2. Expand and simplify each of the following.

- $(a - b)(a + b)$
- $(\sqrt{x + h} - \sqrt{x})(\sqrt{x + h} + \sqrt{x})$
- $\frac{\sqrt{x + h} - \sqrt{x}}{h} \cdot \frac{\sqrt{x + h} + \sqrt{x}}{\sqrt{x + h} + \sqrt{x}}$

Question 3. For each of the following functions, find the domain. (Hint: It might help to make a table of values.)

- $f(x) = \sqrt{x - 7}$
- $g(x) = \sqrt{x} - 7$