Math 203: HW 2

Due on Friday, May 31

Summer '13

John "*Curlee*" **Robertson**

Problem 1

Give the domain and range of the following functions:

$$f(x) = x^2$$

$$g(x) = \sqrt[3]{x}$$

$$h(x) = \frac{3}{x^2 + x - 2}$$

$$j(x) = \frac{1}{\sqrt{x^2 + x - 2}}$$

Problem 2

Find the two intersection points of $f(x) = (x-1)^2 + 1$ and $g(x) = -x^2 + 5$ and give the equation of the line that hits both points.

Problem 3

Simplify the following expressions:

a)

$$\frac{(x-1)^5}{x^2 - 1}$$

b)

$$8(8^x)^y$$

c)

$$\frac{(x+y)^3}{x(x+y)}$$

Problem 4

Graph the following function:

$$f(x) = \begin{cases} x^2 & : x \leq 1 \\ 1 & : x > 1 \end{cases}$$

Give the domain and range of f. Compute $f(-1)$ and $f(3)$.