

Math 105 Quiz 1

§1.1-§1.4

Name:

Show all work for credit.

1. Give the domain and range of the following functions (Hint: They should not be the same):

(a)  $f(x) = x$

(b)  $g(x) = (\sqrt{x})^2$

(c)  $h(x) = \frac{x^2}{x}$

2. The graph of  $j$  can be found from the graph of  $k$  if you:

- (a) Shift  $k$  left 2 units then
- (b) Flip over the  $x$ -axis then
- (c) Shift down by 3 units.

Write the function  $j(x)$  based on  $k(x)$ . i.e.  $j(x) = 2k(x - 5) - 1$  (this is NOT the answer, but here to give you an example).

3. What is the working definition of  $f'$ , the derivative of some function  $f$ ?