

**College Algebra    Quiz 4    Summer 2010**

NAME: \_\_\_\_\_ Score \_\_\_\_\_ /10  
Please **print** your name

1. T    F    The sum of two functions  $f$  and  $g$  with the same domain is the function named  $(f+g)$  whose rule may be written as  $(f+g)(x) = f(x) + g(x)$  for all  $x$  in the common domain.
2. T    F    The composition of a function  $f$  with a function  $g$  is a function named  $f \circ g$  whose rule is  $f \circ g(x) = f(g(x))$ .
3. T    F    The slope of the line through two points  $(x_1, y_1)$  and  $(x_2, y_2)$  is given by the formula  
$$m = \frac{x_1 - x_2}{y_1 - y_2}.$$
4. T    F    The  $y$ -intercept of a graph of a function  $f$  is the point  $(0, f(0))$ .
5. A function  $f$  is called a \_\_\_\_\_ function if its rule can be written as  $f(x) = k$  for some real number  $k$ .
6. A \_\_\_\_\_ of a function  $f$  is a domain element  $k$  for which  $f(k) = 0$ .
7. The graph of a function is the set of all points of the form \_\_\_\_\_ where  $a$  is an element of the domain and  $f(a)$  is the corresponding range element.
8. If  $f$  is a function and  $w$  is a domain element, then  $f(w)$  is the corresponding \_\_\_\_\_ element.
9. Unless otherwise stated, the \_\_\_\_\_ of a function is the largest set of real numbers for which the rule makes sense.
10. Carefully and neatly sketch the graph of the identity function. Label two important points.

