NAME: _____Score_____/10

Please **print** your name   <u>**USE FUNCTION NOTATION !**</u>   <u>**Use function notation.**</u>

1. State the quadratic formula.

The solutions of a quadratic equation $ax^2 + bx + c = 0$ are given by $x = \dfrac{-b \pm \sqrt{b^2 - 4ac}}{2a}$
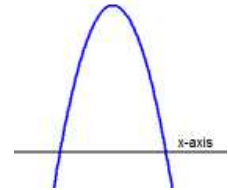
2. The slope of the line through two points (x_1, y_1) and (x_2, y_2) is given by the formula $m = \dfrac{y_1 - y_2}{x_1 - x_2}$.

3. The rule for the squaring function is $f(x) = x^2$.

4. Consider the graph shown at the right. It is the graph of a quadratic function $f(x) = ax^2 + bx + c$.

   Insert the correct relation symbol in the circles

       From this graph we can deduce that $a < 0$ and $b^2 - 4ac > 0$

5. If the point (k, 7) is on the graph of a function g, then $f(\mathbf{k}) = \mathbf{7}$.

6. The graph of a linear function is a **non-vertical** line.

7. If a point is on the y-axis, then its **first** coordinate is zero.

8. To find the x-intercepts of a graph of a function f we let $f(x) = \mathbf{0}$ and solve for **x**.

9. The graph of a function can intersect the vertical line x = 4 no more than **once**.

10. The composition of a function f with a function g is a function named $f \circ g$ whose rule

   is $f \circ g(x) = f(g(x))$.