Suppose that \( f(x) = x + 5 \) and that \( g(x) = x^2 - 3 \). Compute each of the following:

1. \( f(g(0)) \)
   Solution.
   \[
   f(g(0)) = (g(0) + 5) = (0^2 - 3) + 5 = 2
   \]

2. \( f(g(x)) \)
   Solution.
   \[
   f(g(x)) = (g(x) + 5) = (x^2 - 3) + 5 = x^2 - 2
   \]

3. \( g(f(x)) \)
   Solution.
   \[
   g(f(x)) = (x + 5)^2 - 3 = x^2 + 10x + 25 - 3 = x^2 + 10x + 22
   \]

4. \( f(f(-5)) \)
   Solution.
   \[
   f(f(0)) = f(0) + 5 = (0 + 5) + 5 = 10
   \]

5. \( g(g(x)) \)
   Solution.
   \[
   (g(g(x)) = g(x)^2 - 2 = (x^2 - 3)^2 - 3 = (x^4 - 6x^2 + 9) - 2 = x^4 - 6x^2 + 6
   \]
Name __________________________