QUIZ ON COMPOSITE FUNCTIONS

Let $f(x) = x - 2$ and $g(x) = x^2 + 1$

1. What is the **domain of function g (x)?**   (1 mark)

   A. $x \geq 1$ B. $x \leq 1$ C. $x \geq -1$ D. $x \in R$

2. What is the **range of function f (x)?**   (1 mark)

   A. $y \geq 2$ B. $y \geq 1$ C. $y \in R$ D. $y \geq -2$

3. **Find** $(f + g) \, x.$ (1 mark)

   A. $x^2 + x - 1$ B. $x^2 + x + 1$ C. $x^2 + x + 3$ D. $x^2 + x - 2$

4. **Find an expression for fog(x).**   (1 mark)

   A. $x^2 + 1$ B. $x^2 - 1$ C. $(x - 2)^2 + 1$ D. $x^2 + 3$

5. What is the **domain of fog(x)?**   (1 mark)

   A. $x \geq 1$ B. $x \geq -1$ C. $x \in R$ D. $x \neq 1$

   Solve the number puzzle:

        If 1 = 3

             2 = 3

             3 = 5

             4 = 4

             5 = 4

      Then, 6 = ?