

NAME: \_\_\_\_\_ Score \_\_\_\_\_/10

Please **print** your name**Use correct function notation.**For this quiz, consider the function  $f$ ,  $g$ , and  $\text{abs}$  whose rules are:

$$f(x) = 3x - 2 \quad g(x) = x^2 \quad \text{abs}(x) = |x|$$

and the function  $h$  whose rule is not known to you.1. What notation is used to designate the range element associated with 5 by the function  $h$ ?  **$h(5)$** 2. Compute the range element associated with 7 by the function  $f$ . **Show your work.**

$$f(7) = 3(7) - 2 = 19$$

3. Compute the range element associated with 7 by the function  $f+g$ . **Show your work.**

$$f+g(7) = f(7) + g(7) = 3(7) - 2 + 7^2 = 19 + 49 = 68$$

4. Compute the range element associated with 7 by the function  $f \circ g$ . **Show your work.**

$$f \circ g(7) = f(g(7)) = f(7^2) = f(49) = 3(49) - 2 = 145$$

5. Compute the range element associated with  $-4$  by the function  $\text{abs} \circ f$ . **Show your work.**

$$\text{abs} \circ f(-4) = \text{abs}(3(-4) - 2) = \text{abs}(-14) = |-14| = 14$$