1. Use the following functions to answer the questions that follow. Simplify your answers.

$$\boldsymbol{f(x) = 5x^2 - 4x} \text{ and } \boldsymbol{g(x) = -4x}$$

a) Find $(f + g)$

b) Find $(f \circ g)$

2. Let $\boldsymbol{f(x) = x^2 - 2}$, $\boldsymbol{g(x) = 8x}$, and $\boldsymbol{h(x) = \sqrt{x+5}}$

a) Write the function $J(x) = \sqrt{x^2 + 3}$ as a composition of f, g, or h.

b) Write the function $K(x) = 8x^2 - 16$ as a composition of f, g, or h.

3. Given the values of f and g, find the function values.

f(-1) = 5	***g(-1) = 5***
f(0) = -3	***g(0) = 4***
f(2) = 7	***g(2) = 5***
f(5) = -9	***g(5) = -3***

a) Find $(f + g)(5)$.

b) Find $(f \cdot g)(0)$.

b) Find $\left(\frac{f}{g}\right)(-1)$

c) Find $(f \circ g)(2)$