1. Let $f(x) = x^2 + 3$ and $g(x) = \frac{1-x}{1+x}$. Find $(f \circ g)(1)$. (Hint: there's no need to find a formula for $(f \circ g)(x)$).

2. Let $f(x) = 3x - 1$. Find the value of

$$\frac{f(x+h) - f(x)}{h} \qquad (h \neq 0).$$

3. Let $f(x) = \sqrt{1-x}$. Find the domain of f and two points on the graph of f.

4. Let $f(x) = \sqrt{x}$ and $g(x) = 1 - 2x^2$.

   a) Find the domain of $g \circ f$.

b) Find a formula for $(g \circ f)(x)$ and sketch its graph.