

Please show all work and indicate final answer!

1. If  $f(x) = 3x^2 + 1$  and  $g(x) = \sqrt{x-2}$ , find the following, simplifying as much as possible:

(a) The domain of  $f(x)$ .

(b) The domain of  $g(x)$ .

(c)  $f(x)g(x)$

(d)  $(f \circ g)(x)$ .