

Find  $f(g(x))$  and  $g(f(x))$  for each pair of functions and state the domain.

$$f(x) = x^2$$

$$g(x) = \sqrt{1 - x^2}$$

$$f(x) = \frac{1}{x-1}$$

$$g(x) = \sqrt{x}$$

Find  $f(x)$  and  $g(x)$  so that the function can be described as  $h(x)=f(g(x))$ .

$$h(x) = \sqrt{x^2 - 5x}$$

$$h(x) = |3x - 2|$$