

Directions: show all your work and simplify your answers

1. **Graph the the following functions by hand and state the domains and the range.**

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

b) $f(x) = 2\sqrt{x+1}$

2. **Find the functions $f \circ g, g \circ f, f \circ f$, and $g \circ g$**

a) $f(x) = x^4 - 3$ and $g(x) = 1 - 6x$

b) $f(x) = 5x - 4$ and $g(x) = \cos(x)$