

Domain and Range

1. State the largest possible domain for each of the following functions.

a) $f(x) = \sqrt{x}$ b) $f(x) = \frac{1}{x}$ c) $f(x) = \frac{4}{x-2}$

d) $f(x) = \sqrt[3]{(x-4)}$ e) $f(x) = \frac{3}{x^2-16}$ f) $f(x) = \frac{1}{x^2-x}$

g) $f(x) = \sqrt{(2x-5)}$

2. Sketch the following functions and state the range of each.

a) $f(x) = x^2$ b) $f(x) = x^2 + 3$ c) $f(x) = 6\cos x$

d) $f(x) = -2\sin x$ e) $f(x) = -x^2 + 5$ f) $f(x) = 3\sin 2x$