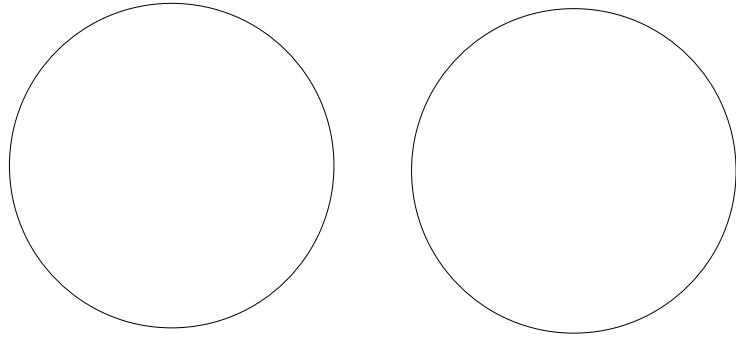


1 Ch 0, App D: Review



Functions:

Graph of a Function:

Combining Functions:

Examples:

Find the domain and range of $f(x) = \sqrt{24 + 2x - x^2}$

(On Your Own): Find the domain of $f(x) = \frac{x}{\sqrt{|x-2|-1}}$

Answer: $(-\infty, 1) \cup (3, \infty)$

Trigonometric Functions (VERY IMPORTANT FOR ENGINEERS!) See Appendix D and the “Formula Page” (before the Title Page in your text).

Example: Solve for x : $\sin(2x) = \cos x$

On Your Own: If $f(x) = \frac{1}{x-1}$ and $g(x) = \tan x$, find:

a) $f(g(x))$

$$\frac{1}{\tan x - 1}$$

b) $g(f(x))$

$$\tan\left(\frac{1}{x-1}\right)$$

c) $\frac{f(x+h) - f(x)}{h}$ (and simplify)

$$\frac{-h}{(x+h-1)(x-1)}$$