Defn: $f$ is a function if

Examples:

Prove that $s(x) = \pm \sqrt{x}$ is not a function:

Defn: $f$ is an increasing function on the interval $[a, b]$ if

Examples:

Prove that $f(x) = x^2$ is not an increasing function on the interval $[-1, 0]$:

Defn: $f$ is an even function if

Examples:

Prove that $f(x) = x$ is not an even function:

Defn: $f$ is a decreasing function on the interval $[a, b]$ if

Examples:

Prove that $f(x) = x^2$ is not a decreasing function on the interval $[0, 1]$:

Defn: $f$ is an odd function if

Examples:

Prove that $f(x) = 1$ is not an odd function: