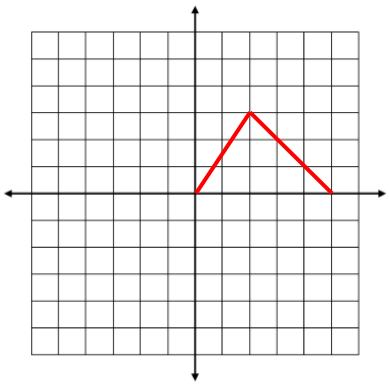
Pre-Calculus **Even, Odd, One-to-One, and Inverse Functions**

Even & Odd Functions:

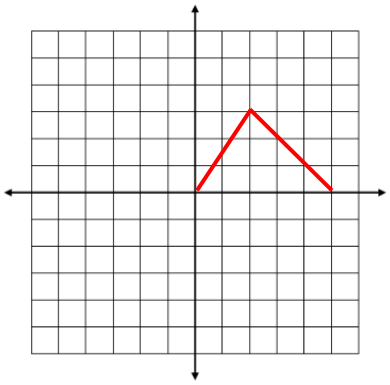
Even **Odd**

Example 1: The graph of a function defined for $x \geq 0$ is given. Complete the graph for $x < 0$ to make:

1. an even function



2. an odd function



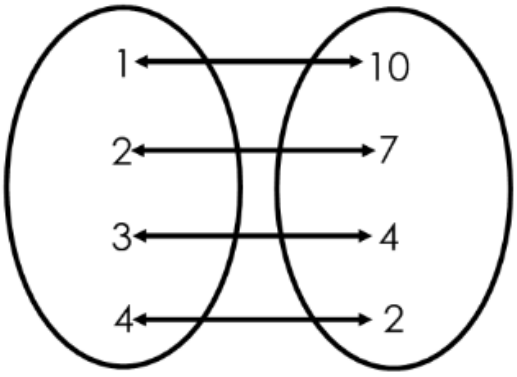
Example 2: Determine whether the function is even, odd, or neither.

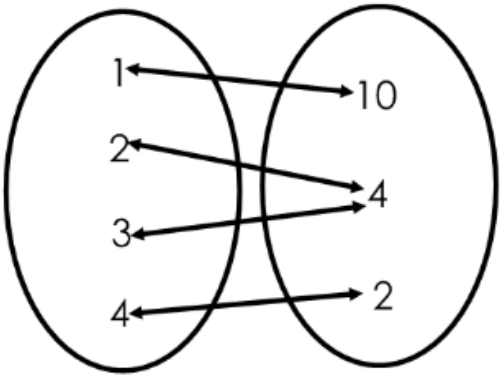
1. $f(x) = 7 - x^6$

2. $f(x) = x^3 + x$

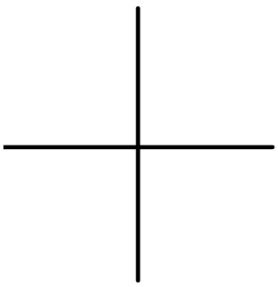
3. $f(x) = 2x - x^2$

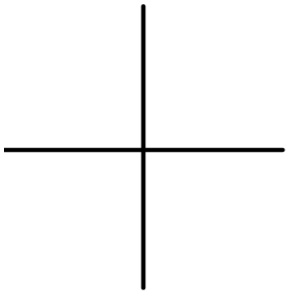
Definition of One-to-One Functions





Vertical Line Test vs **Horizontal Line Test**





Example 3: Determine whether f(x) = $x^2 - 3x + 2$ is one-to-one.

Steps for Finding Inverses of Functions

Example 4: Find the inverse of the function.

1. f(x) = $\frac{x^7-7}{6}$
2. $f(x) = \sqrt{2x-1}$
3. $f(x) = \frac{5}{x-2}$

Graphs of Functions and Their Inverses

The graph of f^{-1} is obtained by reflecting f over the line y = x.