

§ 1.1 Graphs of Equations

The Graph of an Equation - Graphing by Plotting Points

Example 1: Sketch the graph of the line $y = 7 - 3x$ by completing the table and then plotting the points.

x	y
-1	
0	
1	
2	

Example 2: Sketch the graph of $y = x^2 - 2$ by completing a table and then plotting the points.

Intercepts of a Graph

x-intercepts- where the graph crosses the x-axis. Also called **roots** or **zeros**.

To find x-intercepts, let $y = 0$ and solve for x.

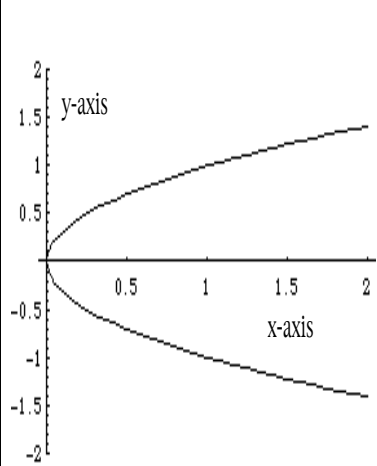
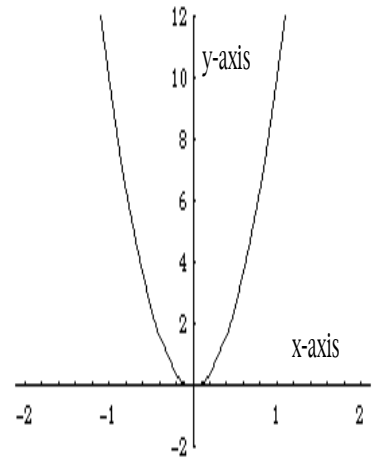
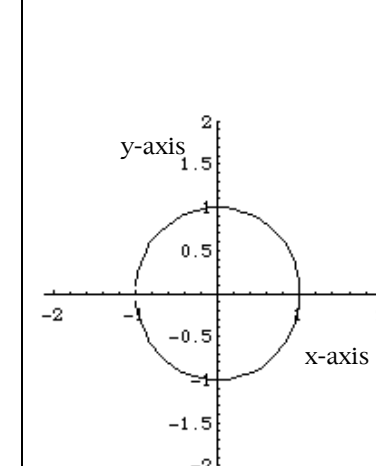
y-intercepts- where the graph crosses the y-axis.

To find the y-intercept, let $x = 0$ and solve for y.

Example 3: Find the x- and y- intercepts of $y = 7 - 3x$

Tests for Symmetry

Symmetric with respect to:

	x – Axis	y – Axis	Origin
TEST	Replace y with $-y$ (same equation should result)	Replace x with $-x$ (same equation should result)	Replace y with $-y$ and replace x with $-x$ (same equation should result)
Example			

Example: Test for symmetry with respect to the x-axis, y-axis, and origin.

$$y = x^2 + 4$$