

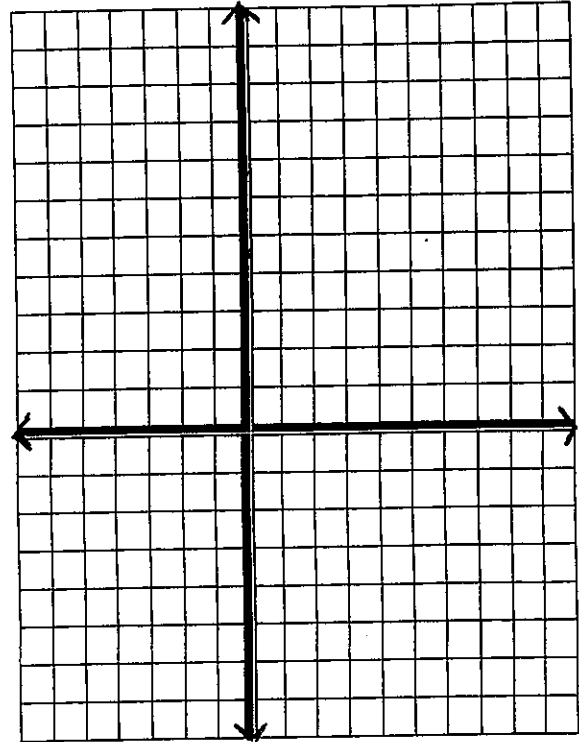
## How Do We Graph A Quadratic Equation?

The graph of a quadratic equation that has the form  $y = ax^2 + bx + c$ , where  $a$ ,  $b$ , and  $c$  stand for numbers, and  $a \neq 0$ , is called a **parabola**.

### Examples:

1) (a) Graph the equation  $y = x^2 - 4x + 3$  for all values of  $x$  such that  $-1 \leq x \leq 5$ .

x	y	x	y



- (b) Write the coordinates of the turning point. \_\_\_\_\_
- (c) Write the equation of the axis of symmetry. \_\_\_\_\_

(d) Write the  $x$  - intercepts.

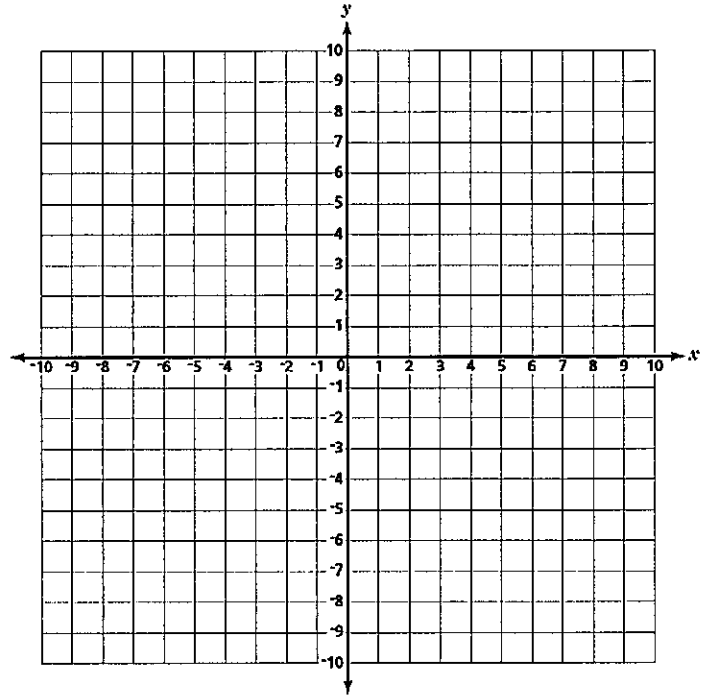
$x =$  \_\_\_\_\_ and  $x =$  \_\_\_\_\_

\*When no interval is given, you must find the turning point. You may use your calculator to do this.

**Example 2:**

Sketch the graph of  $y = -x^2 + 4x - 4$

$a = \underline{\hspace{2cm}}$   $b = \underline{\hspace{2cm}}$   $c = \underline{\hspace{2cm}}$



Vertex:                     

AOS:                     

Roots:                     

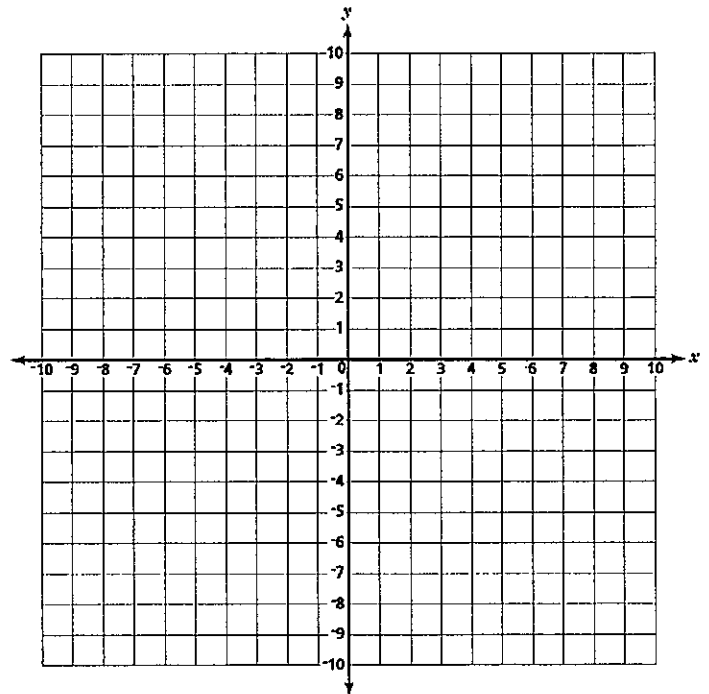
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**Example 3:**

Sketch the graph of  $y = -x^2 - 1$  by filling in the table below

$a = \underline{\hspace{2cm}}$   $b = \underline{\hspace{2cm}}$   $c = \underline{\hspace{2cm}}$

x							
y							



Vertex:                     

AOS:                     

Roots:                     

Opens: