Find the coordinates of two other points on the parabola.

$(-1, 11) = A$

$(7, 11)$

4   4

When reflecting a point over a Vertical Line the y-coordinate doesn't change and you find the x-coordinate by finding the distance the given x-coordinate is from the Line of Symmetry and moving the same distance on the other side of the Line of Symmetry.

$(1, -1)$ 2   2 $B = (5, -1)$

$(3, -5)$
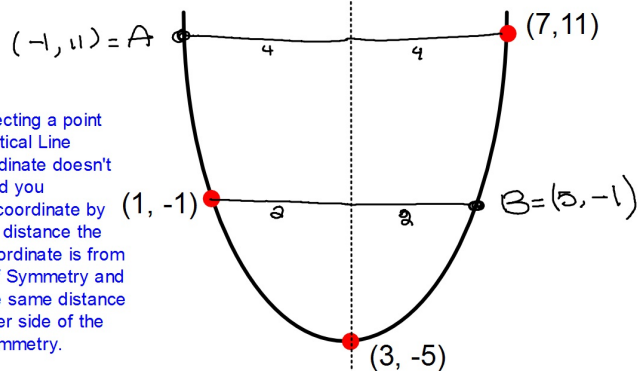
A Quadratic Function is:
A function that can be written in the Standard Form

$f(x) = ax^2 + bx + c$ where $a \neq 0$

Determine if each function is a linear or quadratic. For each function identify the Quadratic, Linear, and Constant terms.

1. $2x(6x - 4) + 6 - 12x^2$

$= 12x^2 - 8x + 6 - 12x^2$

$= -8x + 6$

this function is Linear.

Quadratic Term: None
Linear Term: -8x
Constant: 6

2. $(x + 7)(2x - 3)$

$= 2x^2 + 11x - 21$

	x	$+7$
$2x$	$2x^2$	$+14x$
-3	$-3x$	-21

this function is a Quadratic

Quadratic Term: $2x^2$
Linear Term: 11x
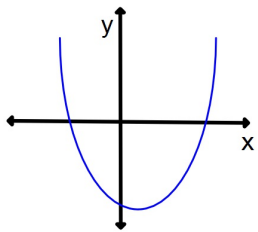Constant: -21

The graph of a Quadratic Function is a   PARABOLA.
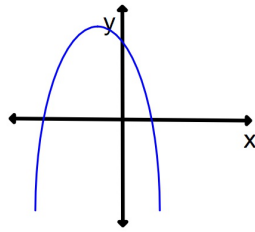
This point is called the VERTEX

All parabolas open UP   or open DOWN.

Parabola that opens up: Parabola that opens down:

When a Parabola opens UP the vertex is called the MINIMUM

When a Parabola opens DOWN the vertex is called the MAXIMUM.

The Line of Symmetry for every Parabola is a Vertical Line that passes through the VERTEX

Our book calls it the Axis of Symmetry

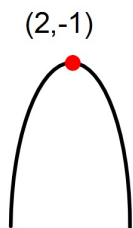The equation of every Line of Symmetry (LOS) is every parabola is:

$x =$ ②

This value is always the same as the x-coordinate of the vertex

(2,-1)

State the Domain and Range of this parabola.

(-4,13)

Domain: Range:

All Real Numbers $y \geq 13$

State the end-behavior
of this parabola.

(2,-1)

As $x \longrightarrow \pm\infty$, $y \longrightarrow \infty$

or

$(\searrow, \nearrow)$

You can now finish Hwk #1

Practice Sheet Sec 5-1,2

This is due tomorrow