

Ch. 9.1

Monday, April 27, 2015 8:30 AM

Quadratic Function: A non-linear function that can be written as:

$$y = ax^2 + bx + c \quad \text{where } a \neq 0$$

examples

$$y = 3x^2 + 2x - 4$$

$$y = -3x^2$$

Parabola: U-shaped graph of a quadratic function

Parent function: $y = x^2$ (simplest function)

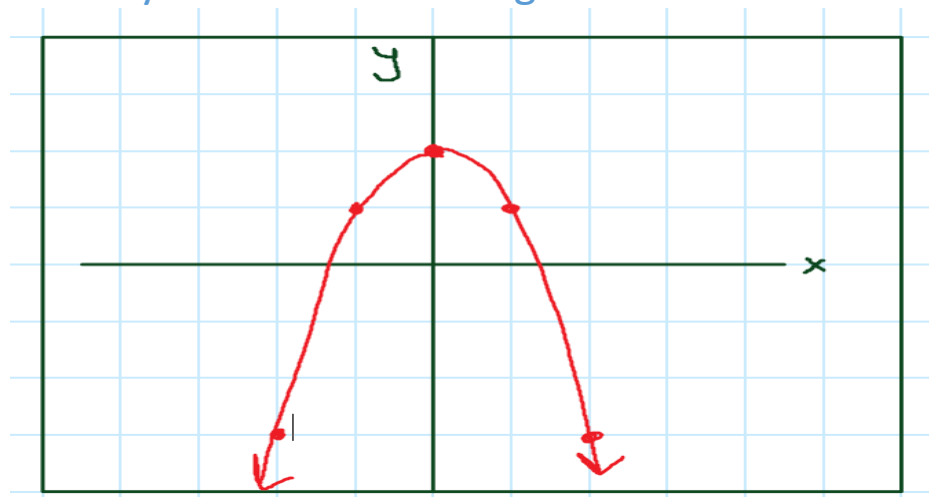
Axis of symmetry: the line that divides the parabola into 2 matching halves.

Vertex: the highest or lowest point on a parabola.

min. or max.

Identify the vertex, is it a minimum or maximum?

Identify the domain & range?



Order the quadratic functions from widest to narrowest?

1.) $y = 5x^2$ $y = -3x^2 + 8$ $y = 2x^2 - 10$

2.) $y = \frac{1}{2}x^2$ $y = -6x^2 + 3$ $y = \frac{1}{8}x^2$

Free fall function

Height of object
in free fall
@ t (sec)

Time in
free fall

initial
height
the fall
started

$$h(t) = -16t^2 + C$$

Graph:

Make a table/select 0,1,2 as the domain/plot the points and reflect about the axis of symmetry.

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