

Determining the Equation of Parabolas

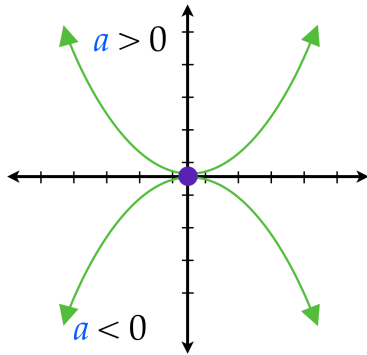
Parabolas

$$x^2 = 4ay$$

Vertex (0,0)

Directrix $y = -a$

Focus (0,a)

Axis of Symmetry $x = 0$ 

Latus Rectum

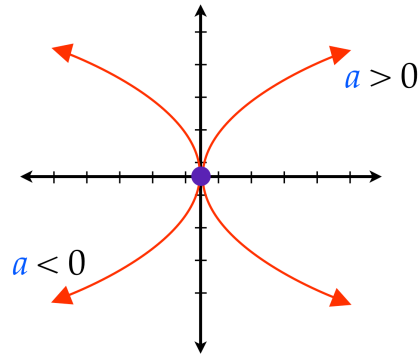
$$LR = |4a|$$

$$y^2 = 4ax$$

Vertex (0,0)

Directrix $x = -a$

Focus (a,0)

Axis of Symmetry $y = 0$ 

Find the equation of a parabola with vertex at (0,0) and focus at point (-3,0).

Find the equation of a parabola with vertex at $(0,0)$ and directrix at line $y = -4$

Find the equation of a parabola with vertex at $(3,4)$ and focus at point $(7,4)$.

Find the equation of the parabola graphed below

