Parabolas – Graphing

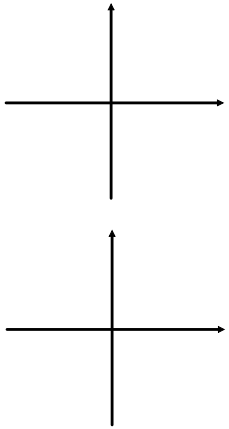
Parabola

Every parabola has the property that any point on its graph is equidistant from a point called the focus and a line called the directrix.

Vertical Parabola

$x^2 = 4py$

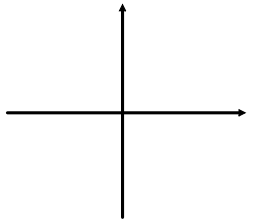
$(x-h)^2 = 4p(y-k)$

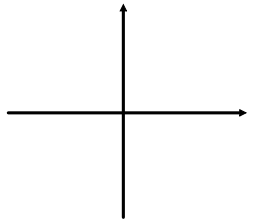


Horizontal Parabola

$y^2 = 4px$

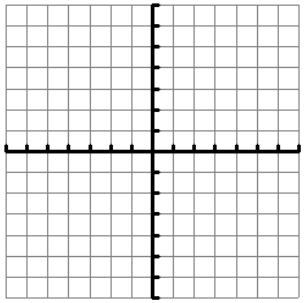
$(y-k)^2 = 4p(x-h)$





Example 1:

$x^2 = 8y$



vertex _____

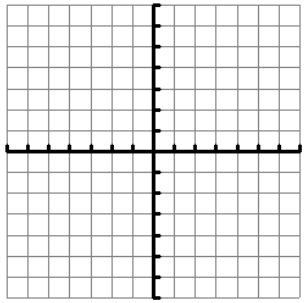
focus _____

directrix = _____

ends of LR = _____

Example 2:

$y^2 = -4x$



vertex _____

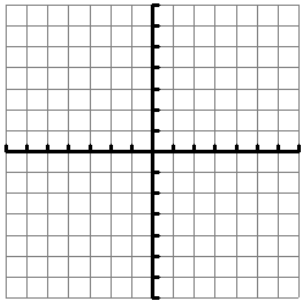
focus _____

directrix = _____

ends of LR = _____

Example 3:

$(x-2)^2 = -12(y+3)$



vertex _____

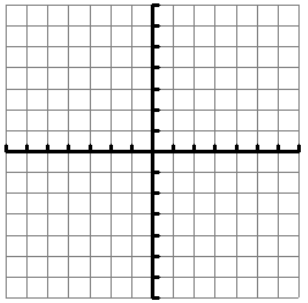
focus _____

directrix = _____

ends of LR = _____

Example 4:

$(y+1)^2 - 16x = 0$



vertex _____

focus _____

directrix = _____

ends of LR = _____