

**Using the given information, write the standard equation of the parabola.**

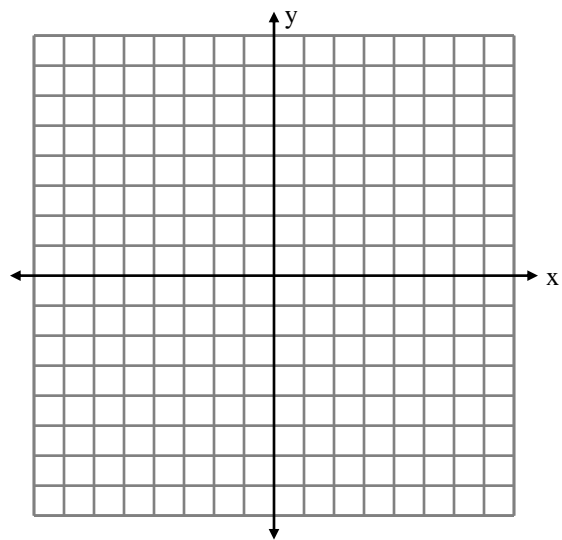
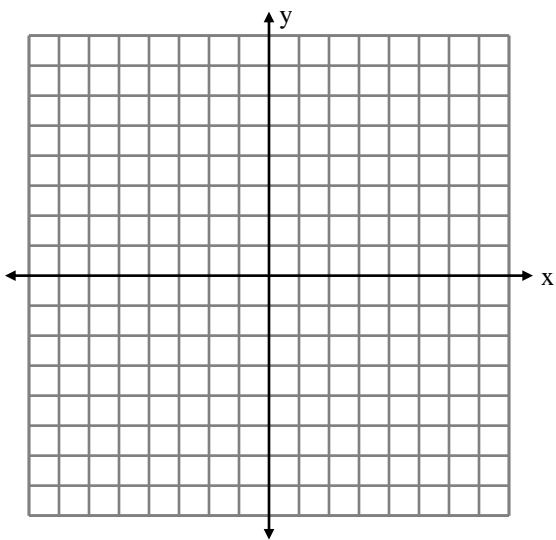
1.) Vertex:  $(0,0)$  , directrix:  $y = 5$

2.) Vertex:  $(0,0)$  , focus:  $(2, 0)$

**Graph the equation and identify the focus and directrix of the parabola.**

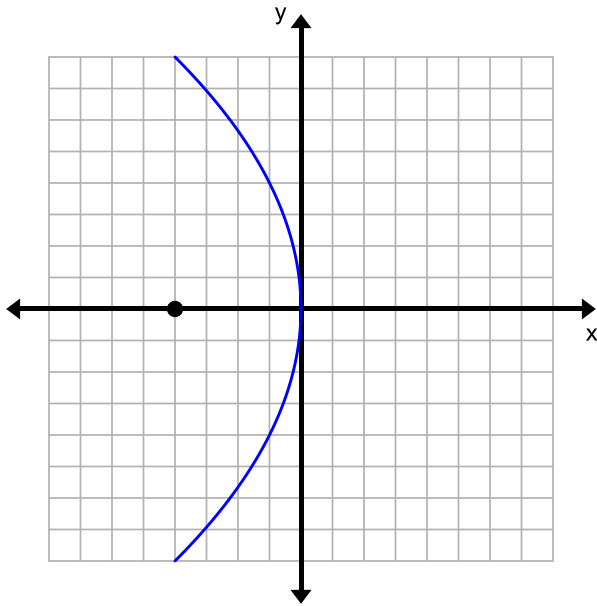
3.)  $y^2 = 8x$

4.)  $x^2 = -12y$

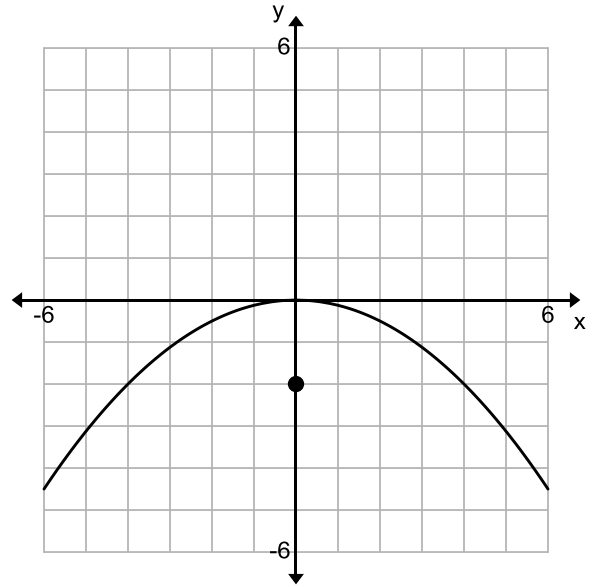


Given the following graph, write the standard equation of the parabola.

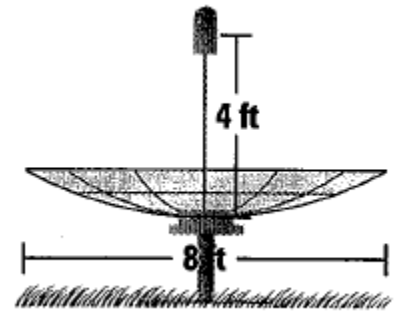
5.)



6.)



7.) The cross section of a television dish is a parabola. The receiver is the device that receives the signal for the television dish. The receiver is at the focus of the parabolic dish. If the receiver is 4 feet away from the vertex (0,0), find the equation for the cross section of the dish.



8.) The filament of a light bulb is a thin wire that glows when electricity passes through it. The filament of a car headlight is at the focus of a parabolic reflector, which sends light out in a straight beam. Given that the filament is 1.5 inches from the vertex (0,0), find the equation for the cross section of the reflector.

