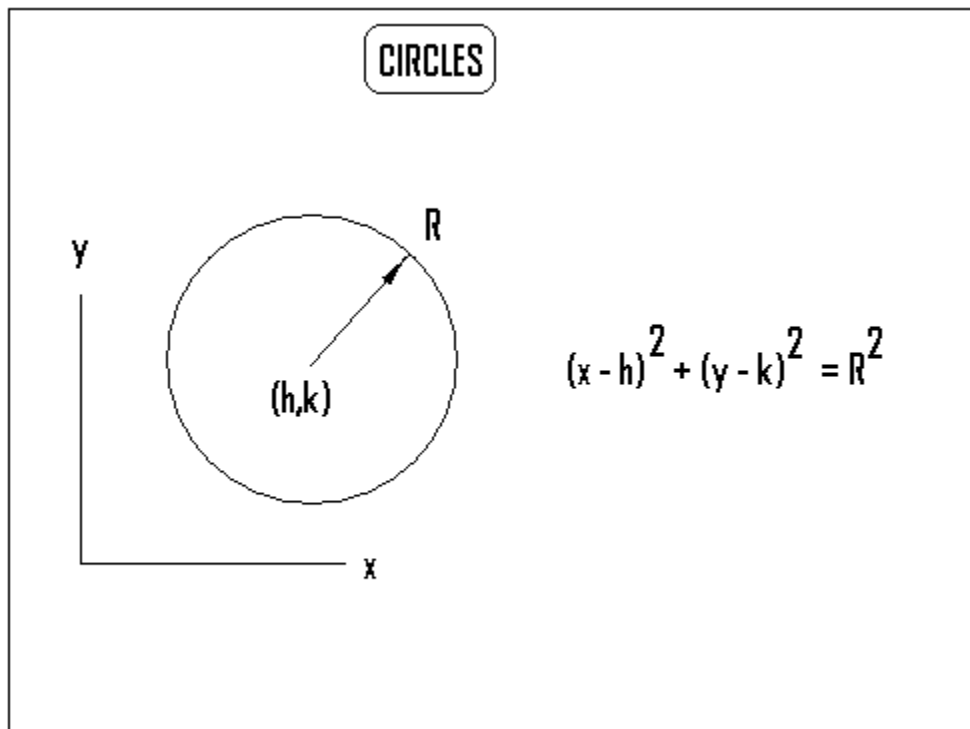


"The Conics"

These shapes are made by passing planes at various angles through a double cone figure.

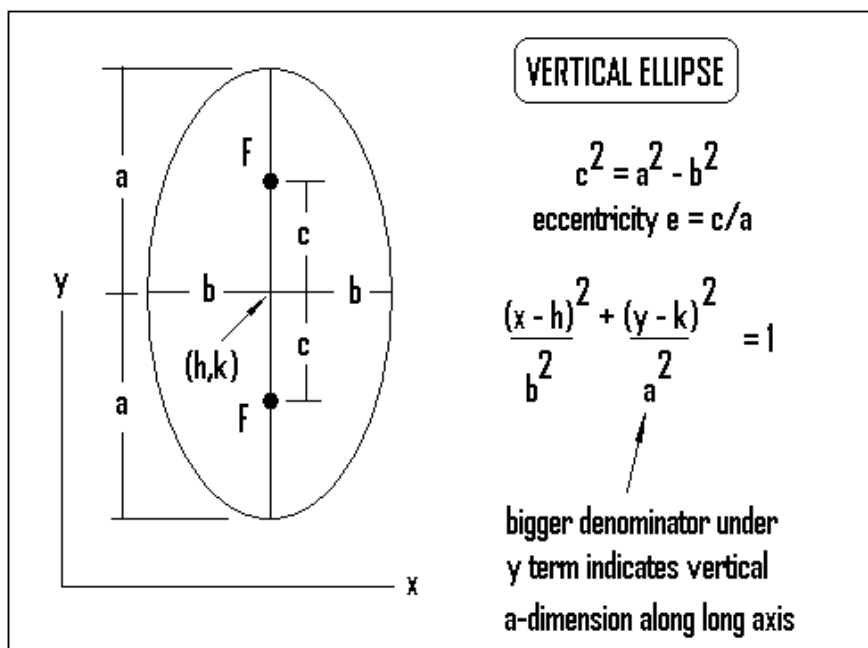
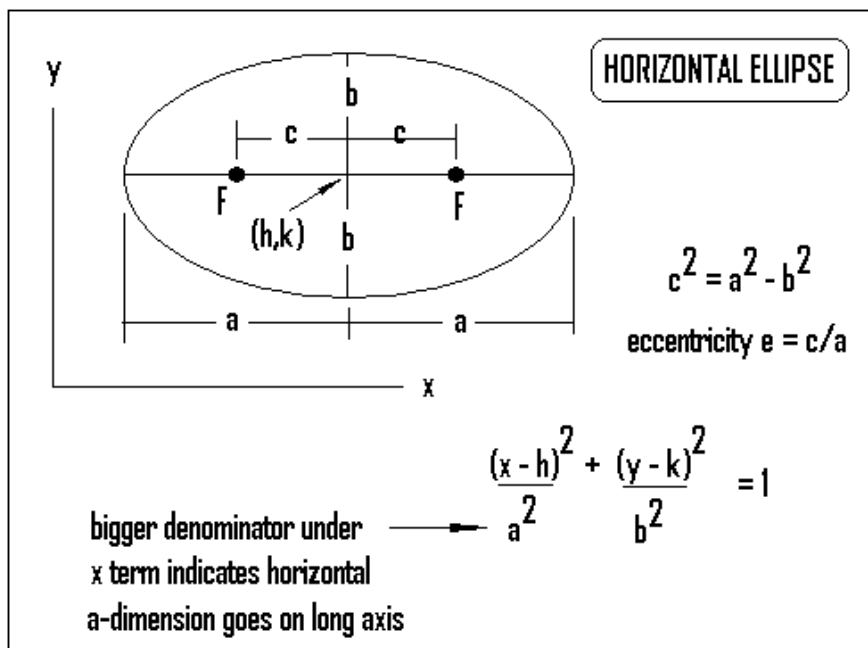
Circles:

Both the x and y terms are squared, and positive in standard form. Both terms have unity coefficients. If there are linear terms, complete the square(s) to find the standard form. Read h and k "like a book". The most common mistake is to forget that the equation shows R^2 , whereas it is just R on the graph.



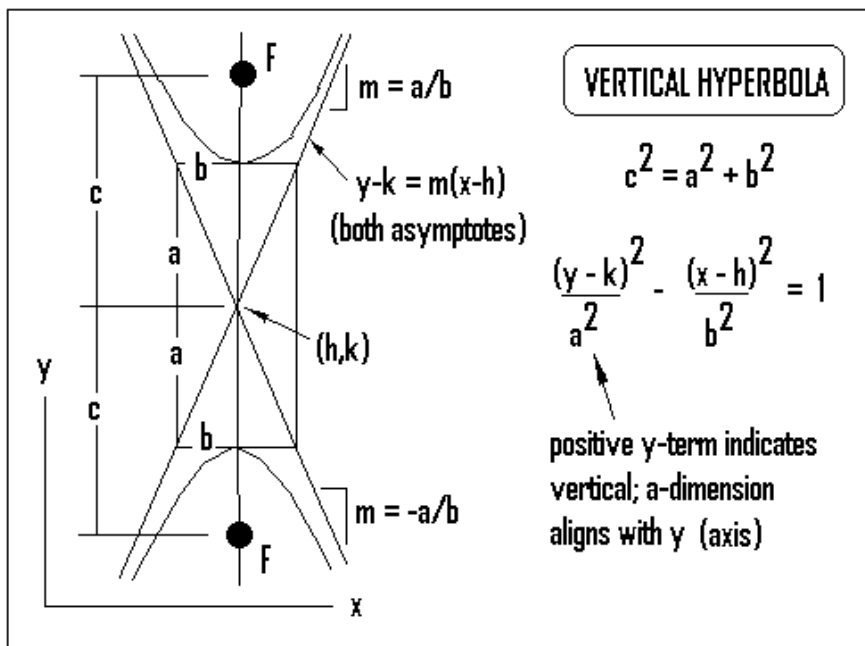
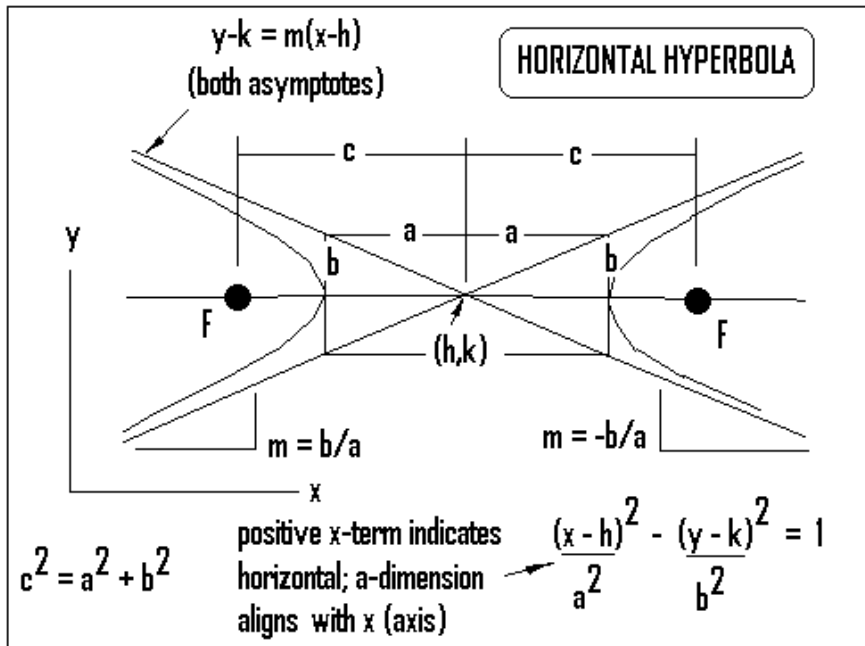
Ellipses:

These are quadratic in both x and y , and both terms are positive in the standard form. Complete the square to find standard form if there are linear terms. Be careful of the coefficients when completing the square. These will be unequal, and should be re-simplified as denominator factors for the standard form.



Hyperbolas:

These are quadratic in both x and y , and one term is positive and the other negative in the standard form. Complete the square to find standard form if there are linear terms. Be careful of the coefficients when completing the square. These will generally be unequal, and should be re-simplified as denominator factors for the standard form.



Parabolas:

These are quadratic in only x or y , not both. If x is quadratic, the figure has a vertical axis. If y is quadratic, the axis is horizontal. Complete the square to find "vertex" form if there are linear terms. Be careful of the coefficient when completing the square. The same " a " factor appears in both the standard and vertex forms.

