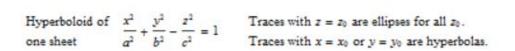
Table 12.1

Name	Standard Equation	Features	Graph
Traine.	otalidal a Equation	, outdies	O. upii

Ellipsoid
$$\frac{x^2}{a^2} + \frac{y^2}{b^2} + \frac{z^2}{c^2} = 1$$
 All traces are ellipses.

Elliptic paraboloid
$$z = \frac{x^2}{a^2} + \frac{y^2}{b^2}$$
 Traces with $z = z_0 > 0$ are ellipses. Traces with $x = x_0$ or $y = y_0$ are parabolas.



Hyperboloid of
$$-\frac{x^2}{a^2} - \frac{y^2}{b^2} + \frac{z^2}{c^2} = 1$$
 Traces with $z = z_0$ with $|z_0| > |c|$ are ellipses. Traces with $x = x_0$ or $y = y_0$ are hyperbolas.

