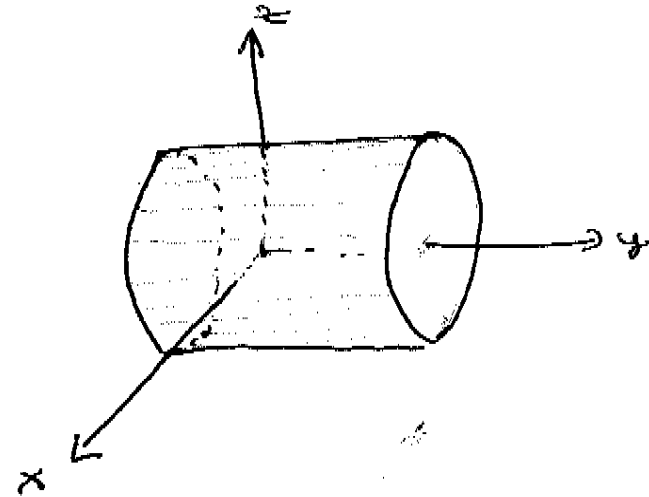
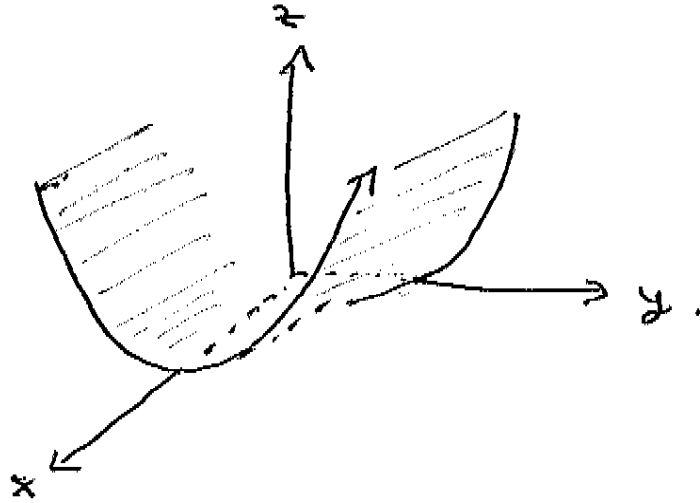


12.6
1/4

12.6: Quadric Surfaces

Ex 1: Sketch a) $z = y^2$ and $x^2 + z^2 = 1$



examples of cylinders

Quadric Surfaces

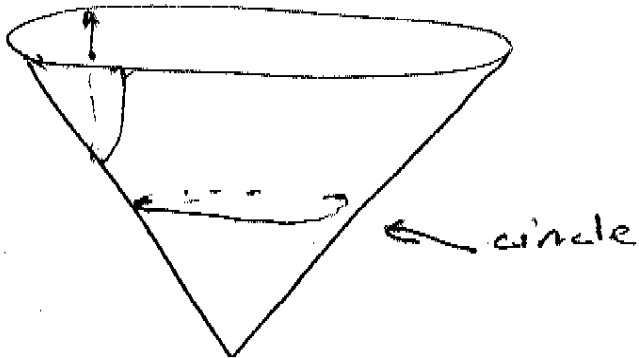
$$Ax^2 + By^2 + Cz^2 + Dxy + Eyz + Fxz + Gx + Hy + Iz + J = 0$$

or if centered @ the origin.

$$\textcircled{1} \quad Ax^2 + By^2 + Cz^2 + J = 0$$

$$\textcircled{2} \quad Ax^2 + By^2 + Iz = 0.$$

12.6
2/4

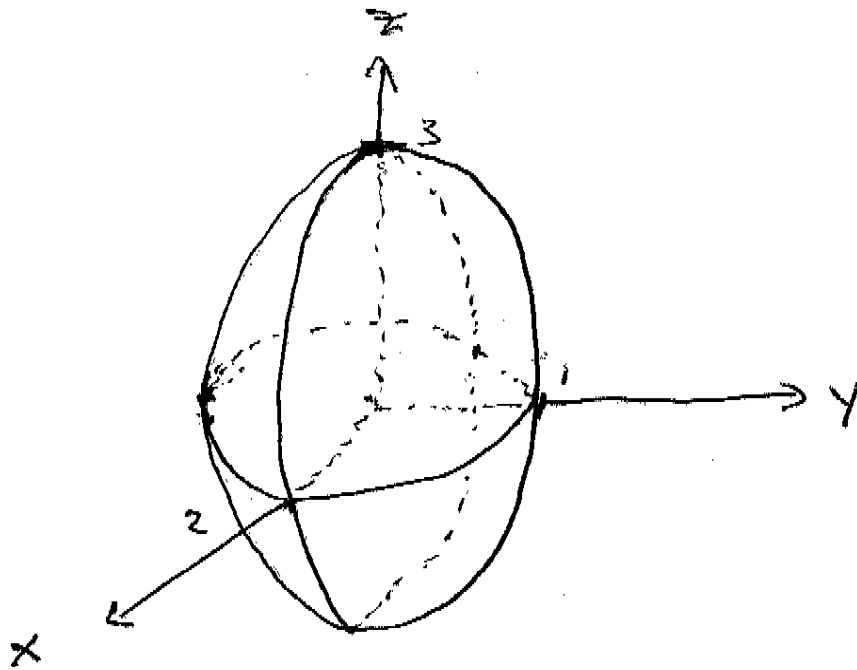
Conic sections.

hyperbola $\frac{x^2}{a^2} - \frac{y^2}{b^2} = 1.$

12,6
3/4

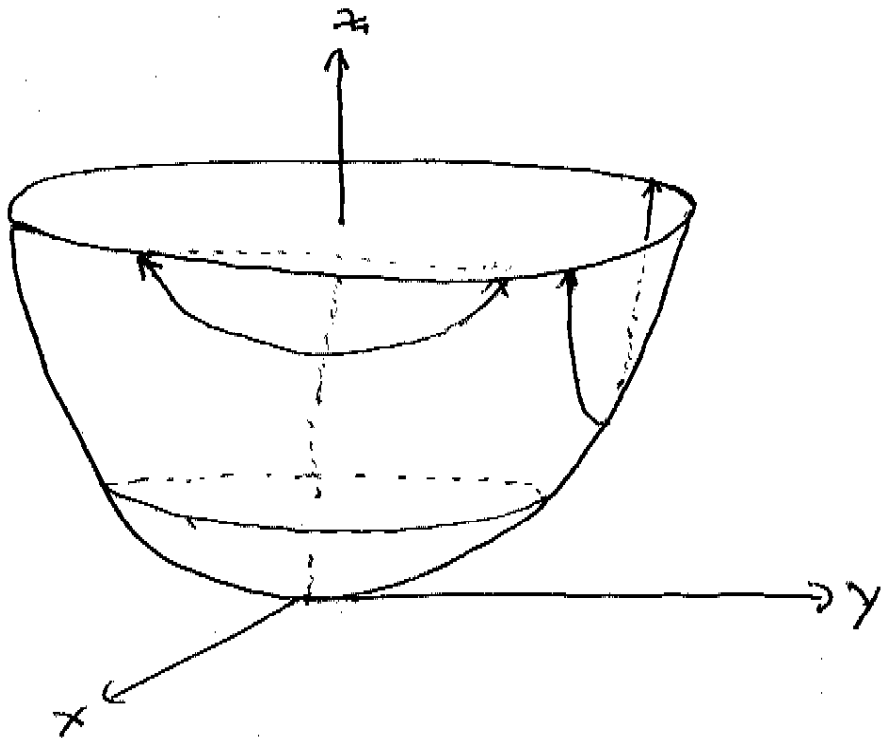
Ex 2: Sketch

$$\frac{x^2}{4} + y^2 + \frac{z^2}{9} = 1$$



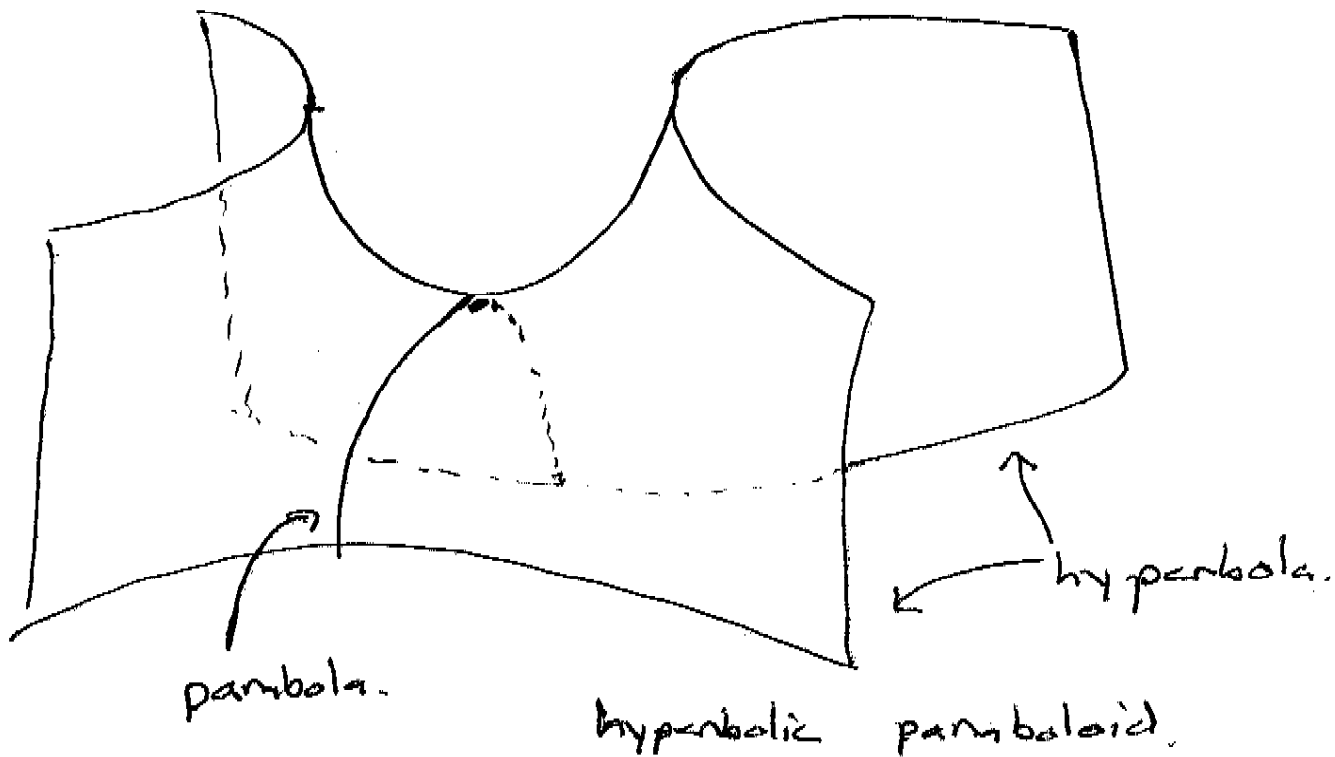
Ex 3: Sketch

$$z = 4x^2 + y^2$$



12.6 4/4

Ex 4: sketch $z = y^2 - x^2$



Ex 5: Sketch $\frac{x^2}{4} + y^2 - \frac{z^2}{4} = 1$ hyperboloid of 1 sheet

Ex 6: Sketch $-x^2 + \frac{y^2}{4} - \frac{z^2}{9} = 1$