

## General Cylinder (C)

The volume,  $V$ , of a general cylinder whose base has area  $B$  and whose height is  $H$  is given by

$$V = BH.$$

Note that the sides of the cylinder need not be perpendicular to the base. In case they are not, measuring the height  $H$  can be a problem in itself.

If the base of the cylinder is a circle of radius  $R$  then  $B = \pi R^2$  and

$$V_{\text{circular cylinder}} = \pi R^2 H$$

If the base of the cylinder is an ellipse whose major and minor axes are  $M$  and  $m$  respectively then  $B = \pi Mm/4$  and

$$V_{\text{elliptical cylinder}} = \frac{\pi}{4} mMH.$$

If the cylinder is a **prism** whose base is a rectangle of length  $L$  and width  $W$  then  $B = LW$  and

$$V_{\text{prism}} = LWH.$$