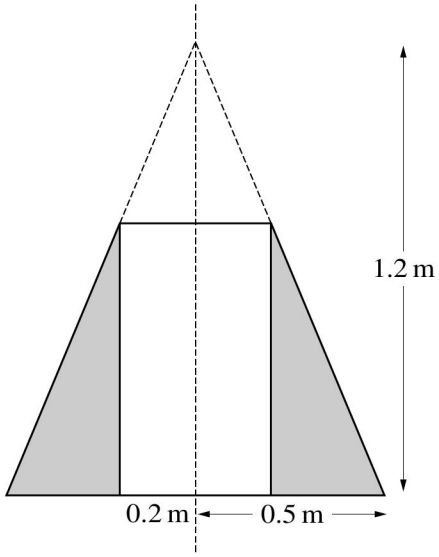

A uniform solid cone has height 1.2 m and base radius 0.5 m. A uniform object is made by drilling a cylindrical hole of radius 0.2 m through the cone along the axis of symmetry (see diagram).

(i) Show that the height of the object is 0.72 m and that the volume of the cone removed by the drilling is $0.0352\pi\,\text{m}^3$. [4]

[The volume of a cone is $\frac{1}{3}\pi r^2 h$.]

(ii) Find the distance of the centre of mass of the object from its base. [6]