

**23rd August**

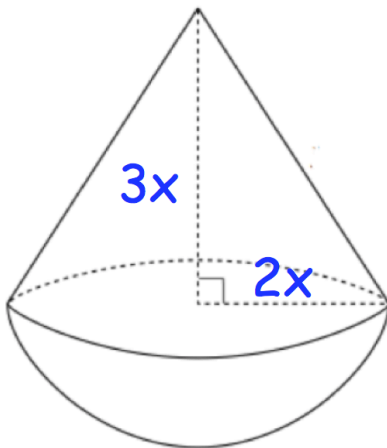
Corbettmaths

Express  $2x^2 - 12x + 13$  in the form  $a(x - b)^2 + c$

Solve  $2x^2 - 12x + 13 = 0$   
giving your answers in surd form.

Work out the matrix that transforms the unit square by a  $180^\circ$  rotation about  $O$ .

The diagram shows a solid made up of a cone and a hemisphere.



The radius of the cone is  $2x$   
The height of the cone is  $3x$ .

Show the volume of the solid is  $\frac{28}{3}\pi x^3$