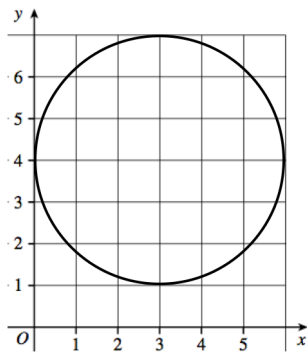
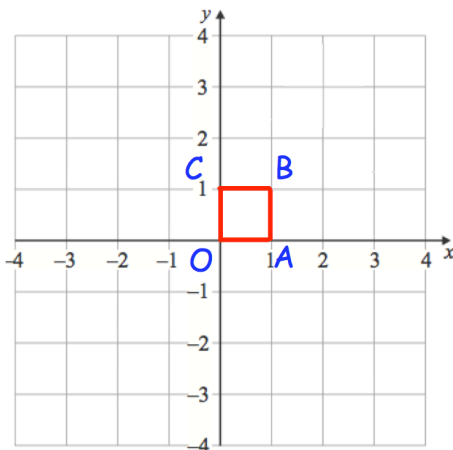


1st September

Corbettmaths



Find the equation of the circle.



Draw and label OA'B'C'

Describe the transformation fully.

OABC is transformed by the matrix
 $\begin{pmatrix} -2 & 0 \\ 0 & -2 \end{pmatrix}$ to give OA'B'C'

The volume of a container with a height of x , is given by

$$V = x(x - 1)(10 - x)$$

where $1 < x < 10$

Find $\frac{dV}{dx}$

Hence find the value of x for which the volume is a maximum. Give your answer to 1 decimal place.