

29th June



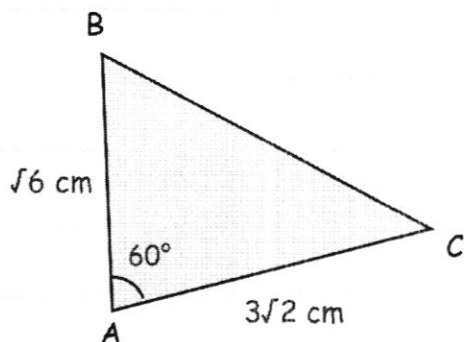
Corbettmaths

Solve the inequality

$$3x^2 - 11x + 6 > 0$$

$$(x-3)(3x-2) > 0$$

$$\underline{x < \frac{2}{3}, x > 3}$$



Calculate the area of triangle ABC

$$\frac{1}{2} \times 3\sqrt{2} \times \sqrt{6} \times \sin 60^\circ$$

$$= \frac{3\sqrt{12}}{2} \times \frac{\sqrt{3}}{2}$$

$$= \frac{18}{4} = \underline{\frac{9}{2}}$$

A transformation is given by the matrix \mathbf{M}

$$\mathbf{M} = \begin{pmatrix} 1 & b \\ 0 & 3 \end{pmatrix}$$

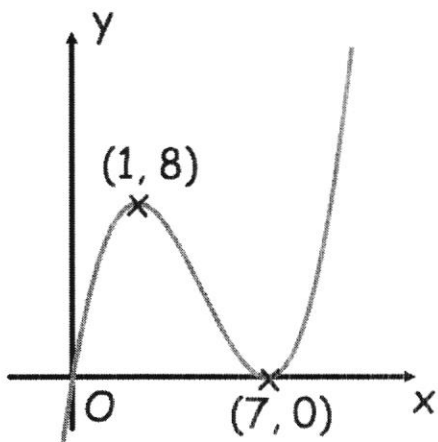
The image of the point $(a, 4)$ under \mathbf{M} is $(-13, 4a)$ Work out the values of a and b .

$$\begin{pmatrix} 1 & b \\ 0 & 3 \end{pmatrix} \begin{pmatrix} a \\ 4 \end{pmatrix} = \begin{pmatrix} -13 \\ 4a \end{pmatrix}$$

$$a + 4b = -13$$

$$12 = 4a \Rightarrow \underline{a = 3}$$

$$\underline{b = -4}$$

Shown is the graph of $y = f(x)$ $(1, 8)$ is a maximum point and $(7, 0)$ is a minimum point.Write down the range of values of x for which $f(x)$ is a decreasing function.

$$\underline{1 < x < 7}$$