

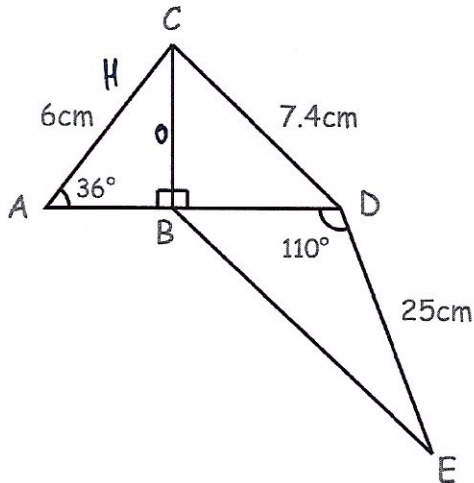
30th March



CorbettmOths

Factorise $20x^2 - 23x + 6$

$$(5x - 2)(4x - 3)$$



ABD is a straight line.
Calculate the length of BE.

$$BC = \sin(36) \times 6 = 3.526\dots$$

$$BD = \sqrt{7.4^2 - 3.526\dots^2}$$

$$= 6.5055\dots$$

$$BE^2 = BD^2 + 25^2 - 2 \times 25 \times BD \times \cos(110)$$

$$= 778.57\dots$$

$$BE = 27.903 \text{ cm}$$

$$A = \begin{pmatrix} 2 & 3 \\ 4 & 1 \end{pmatrix} \quad B = \begin{pmatrix} -3 & 1 \\ 2 & 3 \end{pmatrix}$$

$$\begin{pmatrix} 2 & 3 \\ 4 & 1 \end{pmatrix} \begin{pmatrix} -3 & 1 \\ 2 & 3 \end{pmatrix} = \begin{pmatrix} 0 & 11 \\ -10 & 7 \end{pmatrix}$$

Work out the matrix **AB**Given $f(x) = -x^3 + 3x^2 - 7x - 1$ Show $f(x)$ is a decreasing function for all values of x

$$\text{As } 3(x-1)^2 + 4 > 0$$

$$- [3(x-1)^2 + 4] < 0$$

Q.E.D.

$$f'(x) = -3x^2 + 6x - 7$$

$$= - (3x^2 - 6x + 7)$$

$$= - [3(x^2 - 2x) + 7]$$

$$= - [3[(x-1)^2 - 1] + 7]$$

$$= - [3(x-1)^2 + 4]$$

↑
negative

↑
Always positive