13th January

Corbettmaths

Factorise $2x^2 - x - 10$

$(2x - 5)(x + 2)$

Calculate the distance between the points (–5, 7) and (–3, –6)

2

x – 2, 13

x

$x^2 = 2^2 + 13^2$

$x^2 = 173$

$x = \sqrt{173}$

or

$x = 13.153$ to 3dp.

The coefficient of the x^3 term in the expansion of $(x + a)^4$ is 256

Work out the value of a

1

1 1

1 2 1

1 3 3 1

1 4 6 4 1

$4(x^3)(a) = 256x^3$

$4ax^3 = 256x^3$

$4a = 256$

$a = 64$

$\mathbf{B} = \begin{pmatrix} -2 & 5 \\ 4 & 1 \end{pmatrix}$

Work out the matrix $\mathbf{B}^2$

$\begin{pmatrix} -2 & 5 \\ 4 & 1 \end{pmatrix}\begin{pmatrix} -2 & 5 \\ 4 & 1 \end{pmatrix}$

$= \begin{pmatrix} (-2\times-2)+(5\times4) & (-2\times5)+(5\times1) \\ (4\times-2)+(1\times4) & (4\times5)+(1\times1) \end{pmatrix}$

$\begin{pmatrix} 24 & -5 \\ -4 & 21 \end{pmatrix}$

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