

3rd March

Corbettmaths

Calculate the distance between the points $(-10, 2)$ and $(35, 17)$

$$\sqrt{45^2 + 15^2}$$

$$= 15\sqrt{10} \quad (47.4)$$

Work out the value of

$$\sqrt[3]{\frac{x-172}{x+214}}$$

when $x = 5.15 \times 10^2$ 515

$$\sqrt[3]{\frac{343}{729}} = \frac{7}{9}$$

$$y = 3x^4 - \frac{2}{x^3}$$

$$y = 3x^4 - 2x^{-3}$$

Work out $\frac{d^2y}{dx^2}$

$$\frac{dy}{dx} = 12x^3 + 6x^{-4}$$

$$\frac{d^2y}{dx^2} = 36x^2 - 24x^{-5}$$

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$$= 36x^2 - \frac{24}{x^5}$$

Here are two transformation:

A: A rotation of 180° $\begin{pmatrix} -1 & 0 \\ 0 & -1 \end{pmatrix}$

B: A reflection in the line $y = x$ $\begin{pmatrix} 0 & 1 \\ 1 & 0 \end{pmatrix}$

Work out the single matrix which represents the combined transformation A followed by B.

$$\begin{pmatrix} 0 & 1 \\ 1 & 0 \end{pmatrix} \begin{pmatrix} -1 & 0 \\ 0 & -1 \end{pmatrix} =$$

$$\begin{pmatrix} 0 & -1 \\ -1 & 0 \end{pmatrix}$$

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