

19th March

Corbettmaths

Work out the value of y such that

$$\frac{\sqrt{15} \times \sqrt{y}}{\sqrt{5}} = 3\sqrt{11}$$

A ship sails from point A on a bearing of 035° for 8 miles to point B.
At B the ship alters course and sails for 7km on a bearing of 170° to point C.

Find the distance AC and the bearing of A from C.

Find where the matrix $\begin{pmatrix} -2 & 1 \\ -3 & 4 \end{pmatrix}$ maps the point $(2, -1)$

$$x^{-3} = \frac{8}{27} \quad \text{and} \quad y^{\frac{3}{2}} = 64$$

where $x > 0$ and $y > 0$

Find the value of $\frac{x}{y}$