Name: _____ 5-a-day Further Maths

23rd January

Corbettmaths

Show that $x - 5$ is a factor of

$x^5 - 6x^4 - x + 630$

The lines AB and BC are perpendicular.

The coordinates of point A are (–18, –13)
The coordinates of point B are (2, –3)
The coordinates of point C are (p, q)

Work out one possible pair of integer values for p and q

The transformation matrix

$\begin{pmatrix} p & q \\ 2p & 5q \end{pmatrix}$

maps the point (1, –2) to the point (9, 24).

Find p and q

Show that $\frac{cos\theta}{1 - cos\theta} - \frac{cos\theta}{1 + cos\theta}$

is equivalent to $\frac{2}{tan^2\theta}$