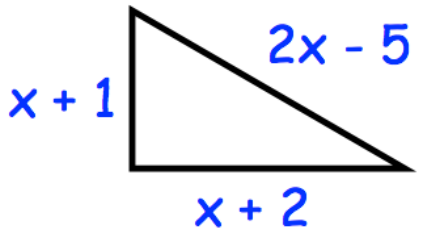
25th December

Corbettmaths

Below is a right angled triangle.



Find the possible values of x.

Show that $x - 2$ is a factor of

$x^7 - 6x^4 - x - 30$

The transformation matrix

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

maps the point (2, 1) to the point (0, −12).

Find p and q

$A = 4 - x$
$B = 7x - 4$
$C = x^2$

Show that
$(3A + B)^2 \equiv 6A + 10B + 16C + 80$