

**15th October**

Corbettmaths

Factorise fully

$$(y + 7)^4 - (y + 7)^3(y - 3)$$

Do not attempt to expand brackets.

Work out the gradient of

$$y = 2x^3 + 4x^2 - 7x \text{ at the point } (1, -1)$$

The matrix  $\begin{pmatrix} 3 & x \\ 6 & -3 \end{pmatrix}$  maps the point  $(y, 4)$  onto the point  $(-14, 24)$

Find the values of  $x$  and  $y$ 

Solve

$$x^{\frac{2}{3}} + 2x^{-\frac{1}{3}} = 3x^{\frac{5}{3}}$$