

**2nd September**

Corbettmaths

$(x + 2)$  is a factor of  
 $x^3 - 6x^2 - 9x + a$

Work out the value of  $a$

The first five terms of a sequence are shown below.

$-8, -3, 4, 13, 24 \dots$

Work out an expression for the  $n$ th term of the sequence

Angle  $\theta$  is obtuse and  $\sin\theta = \frac{\sqrt{33}}{7}$

Work out the value of  $\cos\theta$

Work out the equation of the normal to the curve  $y = 2x^2 - 4x + 5$  at the point  $(2, 5)$

Give your answer in the form  
 $y = mx + c$