

**25th September**

Corbettmaths

$$x : y = 2 : 13$$

$$y : z = 3 : 4$$

Write  $x$  in terms of  $z$ 

$$y = x^4 - \frac{1}{2}x^3$$

Work out the value of  $\frac{d^2y}{dx^2}$  when  $x = 3$ Use the factor theorem to show that  
 $(x + 4)$  is a factor of  
 $2x^3 + 5x^2 - 14x - 8$ Hence, factorise fully  
 $2x^3 + 5x^2 - 14x - 8$ Use Pascal's Triangle to work out the  
coefficient of  $x^5$  in the expansion of

$$(3 - x)^6$$