

22nd May



Corbettmaths

$$\int 3 + \sqrt{x} \, dx$$

Given

$$3^{x+1} = 9^{10-2x}$$

Find x

In an arithmetic sequence, the 3rd term is  $-12$  and the 22nd term is  $-145$ .

Find a and d.

The curve C has equation  
 $y = kx^2 - 4x + 1$

Find

$$\frac{dy}{dx}$$

The point A with x coordinate 1 lies on C.  
The tangent to C at A is parallel to the line  
with equation  $2y - 20x + 3 = 0$

Find the value of k.