

13th April



Corbettmaths

The n th term of a sequence is $\frac{2n+9}{3n-15}$

Write down the limiting value of the sequence $n \rightarrow \infty$

$$\frac{2}{3}$$

A straight line passes through the points $(-8, 1)$ and $(3, -43)$

x y

Find the coordinates of the point where the line crosses the y -axis.

$$(0, -31)$$

$$m = \frac{-44}{11} = -4$$

$$y = -4x + c$$

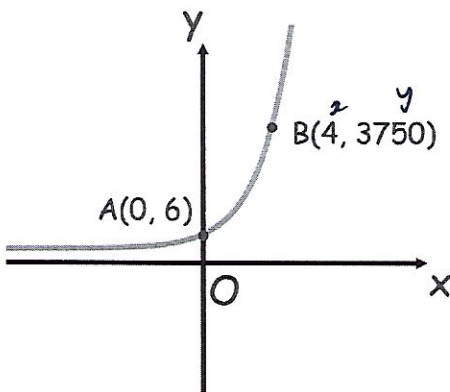
$$1 = 32 + c$$

$$c = -31$$

$$y = -4x - 31$$

The sketch shows a curve with equation $y = ab^x$ where $a > 0$ and $b > 0$

The curve passes through the points $(0, 6)$ and $(4, 3750)$



Calculate the value of a and b

$$y = ab^x$$

$$x=0 \quad y=6$$

$$6 = a \quad a = 6$$

$$3750 = 6 \times b^4$$

$$625 = b^4$$

$$b = 5$$

Solve

$$\sqrt[3]{4\sqrt{x} - 11} = 3$$

$$4\sqrt{x} - 11 = 27$$

$$4\sqrt{x} = 38$$

$$\sqrt{x} = \frac{19}{2}$$

$$x = 90.25$$