Name: _____ 5-a-day Further Maths

28th April

Corbettmaths

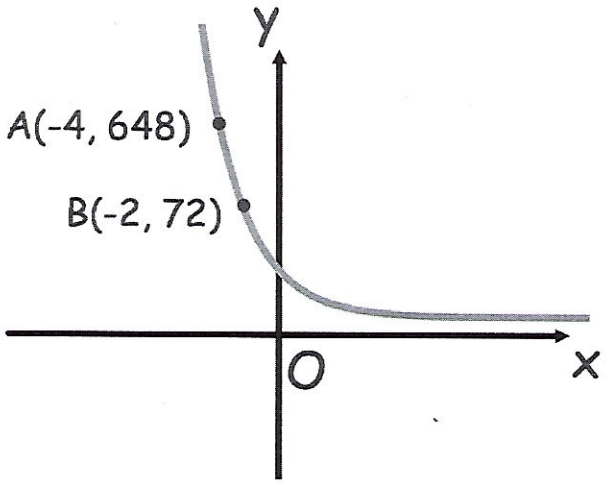
Simplify

$$\frac{9x^2-16}{x+5} \times \frac{x^2-2x-35}{3x+4}$$

$$\frac{(3x-4)(3x+4)}{x+5} \times \frac{(x-7)(x+5)}{3x+4}$$

$$(x-7)(3x-4)$$

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



The curve passes through the points (–4, 648) and (–2, 72)

Calculate the value of a and b

$y = ab^{-x}$

$648 = ab^4$

$72 = ab^2$

$9 = b^2$

$b = 3$

$a = 8$

Work out the nth term of the sequence

6 12 20 30 ...

6 8 10

2 2

$a = 1$

$3a + b = 6$

$b = 3$

$a + b + c = 6$

$c = 2$

$n^2 + 3n + 2$

A(−8, 9) and B(13, −47)

Given AN:NB = 2 : 5

Find the coordinates of point N.

$21 \div 7 = 3$

$3 \times 2 = 6$

$-56 \div 7 = -8$

$-8 \times 2 = -16$

$\vec{AB} = \begin{pmatrix} 21 \\ -56 \end{pmatrix}$

$\vec{AN} = \begin{pmatrix} 6 \\ -16 \end{pmatrix}$

$N(-2, -7)$

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