

EJERCICIO MIBE2307:

Resolva la siguiente ecuación:

$$3^x + 5 \cdot 3^{x+2} - 4 \cdot 3^{x-1} = 1206$$

$$3^x + 5 \cdot 3^x \cdot 3^2 - 4 \cdot \frac{3^x}{3^1} = 1206$$

$$\boxed{3^x = t}$$

$$t + 45 \cdot t - \frac{4}{3}t = 1206$$

$$46t - \frac{4}{3}t = 1206$$

$$\frac{138t - 4t}{3} = \frac{3618}{3}$$

$$134t = 3618 \Rightarrow t = \frac{3618}{134} = 27$$

$$3^x = 27 \Rightarrow 3^x = 3^3 \Rightarrow \boxed{x=3}$$