

EJERCICIO MIBE3374:

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$$\begin{cases} (1) \log(x+y) = 2 \cdot \log 3 \\ (2) 3^{x-y} = 243 \end{cases}$$

$$\begin{cases} \log(x+y) = \log 3^2 \\ 3^{x-y} = 3^5 \end{cases}$$

$$\begin{array}{r|l} 243 & 3 \\ 81 & 3 \\ 27 & 3 \\ 9 & 3 \\ 3 & 3 \\ 1 & \end{array}$$

$$\begin{array}{r} (+) \quad \begin{cases} x+y = 9 \\ x-y = 5 \end{cases} \\ \hline 2x = 14 \Rightarrow x = 7 \end{array}$$

$$\text{Si } x+y=9 \Rightarrow 7+y=9 \Rightarrow y=2$$

Comprobación: $x=7; y=2$

$$(1) \text{ ¿} \log(7+2) = 2 \log 3? \Rightarrow \log 9 = \log 3^2 \text{ OK!}$$

$$(2) \text{ ¿} 3^{7-2} = 3^5? \Rightarrow 3^5 = 3^5 \text{ OK!}$$