

$$\begin{cases} \log x - \log y = 3 \implies \log \frac{x}{y} = \log 1000 \\ 2^{x+y} = 64 \implies 2^{x+y} = 2^6 \end{cases}$$

$$\left. \begin{cases} \frac{x}{y} = 1000 \implies x = 1000y \\ x + y = 6 \implies x = 6 - y \end{cases} \right\} \begin{aligned} 1000y &= 6 - y \\ &\downarrow \\ 1001y &= 6 \\ y &= \frac{6}{1001} \end{aligned}$$

$$\rightarrow x = 1000y = 1000 \frac{6}{1001} = \frac{6000}{1001}$$

$$\text{LA SOLUCIÓN ES: } \boxed{x = \frac{6000}{1001} ; y = \frac{6}{1001}}$$