

EJERCICIO MIBE3461:

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Hallar i sin calculadora!

$$\frac{\ln \sqrt{e} - \ln \frac{1}{e^2} + \ln \sqrt[4]{e^3} + \ln e^{-3}}{\ln \sqrt[3]{e}} =$$

$$= \frac{\ln e^{1/2} - \ln e^{-2} + \ln \sqrt[4]{e^3} + \ln e^{-3}}{\ln \sqrt[3]{e}} =$$

$i \log a^b = b \cdot \log a!$

$$= \frac{\frac{1}{2} \ln e - (-2) \ln e + \ln e^{3/4} - 3 \ln e}{\ln e^{1/3}} =$$

$i \ln e = \log_e e = 1!$

$$= \frac{\frac{1}{2} \cdot 1 + 2 \cdot 1 + \frac{3}{4} \ln e - 3 \cdot 1}{\frac{1}{3} \cdot \ln e} =$$

$$= \frac{\frac{1}{2} + 2 + \frac{3}{4} \cdot 1 - 3}{\frac{1}{3} \cdot 1} = \frac{\frac{1}{2} + 2 + \frac{3}{4} - 3}{\frac{1}{3}} =$$

$$= \frac{\frac{4 + 16 + 3 - 24}{4}}{\frac{1}{3}} = \boxed{-1}$$