

## LOGARITMOS

Problema 81:

Teniendo en cuenta que  $\log 2 = 0,301030$ , calcular sin tablas:

$$\log \sqrt{\sqrt{156,25}}$$

Solución Problema 81:

$$\begin{aligned} \log \sqrt{\sqrt{156,25}} &= \log \sqrt[4]{156,25} = \frac{1}{4} \cdot \log 156,25 = \frac{1}{4} \log \frac{15625}{100} = \\ &= \frac{1}{4} (\log 15625 - \log 100) = \frac{1}{4} (\log 5^6 - \log 10^2) = \frac{1}{4} (6 \cdot \log 5 - 2 \cdot \log 10) \\ &= \frac{1}{4} (6 \cdot \log 5 - 2 \cdot \log 10) = \frac{1}{4} 2 \cdot (3 \cdot \log 5 - \log 10) \\ &= \frac{1}{2} \left( 3 \cdot \log \frac{10}{2} - \log 10 \right) = \frac{1}{2} (3 \cdot (\log 10 - \log 2) - \log 10) = \\ &= \frac{1}{2} (3 \cdot (1 - 0,301030) - 1) = \frac{1}{2} ((3 \cdot 0,69897) - 1) = \frac{1}{2} (2,09691 - 1) = \\ &= \frac{1}{2} (2,09691 - 1) = \frac{1}{2} \cdot 1,09691 = 0,548455 \end{aligned}$$