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- Demostrar que un sistema que opera a 16 % de overshot

$0,16 = e^{-\gamma\pi/(1-\gamma^2)^{1/2}}$ donde $\gamma = 0,504$

✓ Al realizar el despeje

$$\ln(0,16) = \frac{-\gamma\pi}{(1-\gamma^2)^{1/2}}$$

$$(\ln(0,16))^2 = \frac{(-\gamma\pi)^2}{(1-\gamma^2)} \rightarrow (\ln(0,16))^2 - \gamma^2(\ln(0,16))^2 = (-\gamma\pi)^2$$

$$(\ln(0,16))^2 = (\gamma\pi)^2 + \gamma^2(\ln(0,16))^2$$

$$(\ln(0,16))^2 = \gamma^2(\pi^2 + (\ln(0,16))^2)$$

$$\gamma = \left(\frac{(\ln(0,16))^2}{\pi^2 + (\ln(0,16))^2}\right)^{1/2} \rightarrow \gamma = \frac{\ln(0,16)}{(\pi^2 + (\ln(0,16))^2)^{1/2}}$$

$\gamma = 0,50387 \approx 0,504$

✓ Entonces