

ΕΝΔΕΙΚΤΙΚΕΣ ΑΠΑΝΤΗΣΕΙΣ

Θέμα 4^ο

α) $d_1 = d + 1 \text{ mm} \Rightarrow 21 \text{ mm} = d + 1 \text{ mm} \Rightarrow d = 20 \text{ mm} = 2 \text{ cm}$

β)

$$A = \frac{\pi \cdot d^2}{4} = \frac{3,14 \cdot 2^2 \text{ cm}^2}{4} = 3,14 \text{ cm}^2$$

γ)

$$\tau = \frac{Q}{1 \cdot A \cdot z \cdot n} = \frac{Q}{1 \cdot 3,14 \text{ cm}^2 \cdot 4 \cdot 1} = \frac{Q}{12,56 \text{ cm}^2}$$

Θέτω $\tau = \tau_{\varepsilon\pi}$ οπότε

$$2000 \frac{\text{daN}}{\text{cm}^2} = \frac{Q}{12,56 \text{ cm}^2} \Rightarrow Q = 2000 \frac{\text{daN}}{\text{cm}^2} \cdot 12,56 \text{ cm}^2 = 25120 \text{ daN}$$