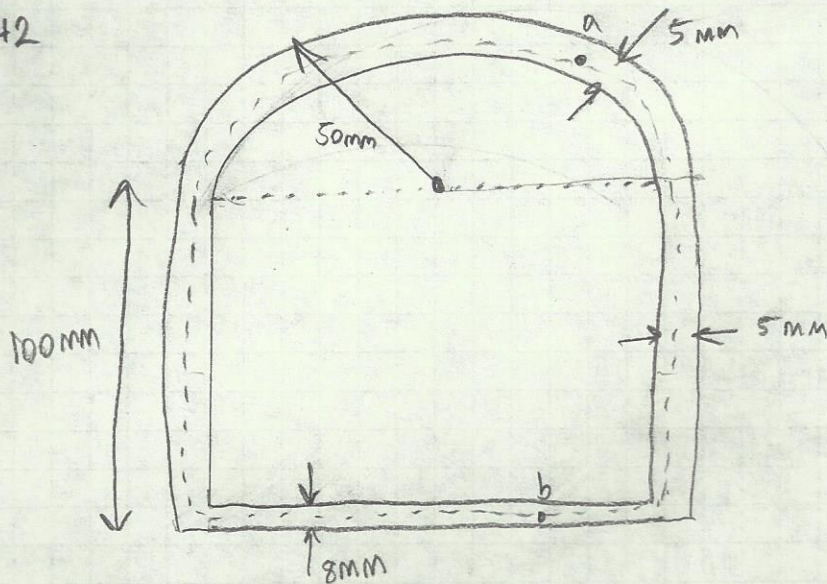


3.142



$$M = 5.6 \times 10^3 \text{ N}\cdot\text{m}$$

$$\tau_a = ? \quad \tau_b = ?$$

$$T = 2Aq$$

$$\tau = \frac{q}{t}$$

$$A = \frac{1}{2}\pi r^2 + 100(100)$$

$$\frac{1}{2}\pi [(50 - 2.5) \times 10^{-3} \text{ m}]^2 + [(100 - 4) \times 10^{-3}] [(100 - 2(2.5)) \times 10^{-3}]$$

$$A = 0.01266 \text{ m}^2$$

$$q = \frac{T}{2A} = \frac{5 \times 10^3}{2(0.01266)} = 1.974 \times 10^5$$

$$\tau_a = \frac{1.974 \times 10^5}{(2.5 \times 10^{-3})} = 7.896 \times 10^7 \frac{\text{N}}{\text{m}^2}$$

$$\tau_b = \frac{1.974 \times 10^5}{(4 \times 10^{-3})} = 4.935 \times 10^7 \frac{\text{N}}{\text{m}^2}$$

$$= 4.935 \times 10^7 \frac{\text{N}}{\text{m}^2}$$