

Quiz 3 answer

$$J_u = 2\pi r^3 = 2\pi(1)^3 = 6.28 \text{ in}^3$$

$$J = 0.707 h J_u = 0.707(0.25)(6.28)$$

$$= 1.11 \text{ in}^4$$

$$\tau = Tr/J$$

$$= 20(1)/1.11 = 18.0 \text{ kpsi Ans.}$$