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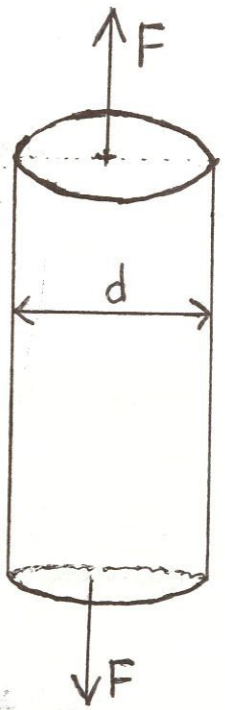
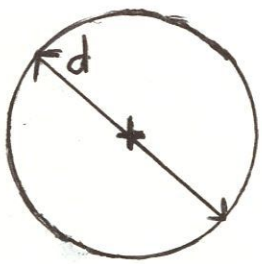
Date: 1st February 2019



$F = 75\,kN$

$d = 50\,mm \left(\frac{1\,m}{1000\,mm}\right) = 0.050\,m$

Cross-section



$$A = \frac{\pi}{4} d^2$$

$$= \frac{\pi}{4}(0.050\,m)^2$$

$$A = 1.963495408 * 10^{-3}\,m^2$$

$$\sigma_{axial/Normal} = \sigma_{a/N} = \frac{F}{A} = \frac{75\,kN}{(1.963495408 * 10^{-3}\,m^2)} = 38,197.1\,kPa$$

$$= 38.2\,MPa$$