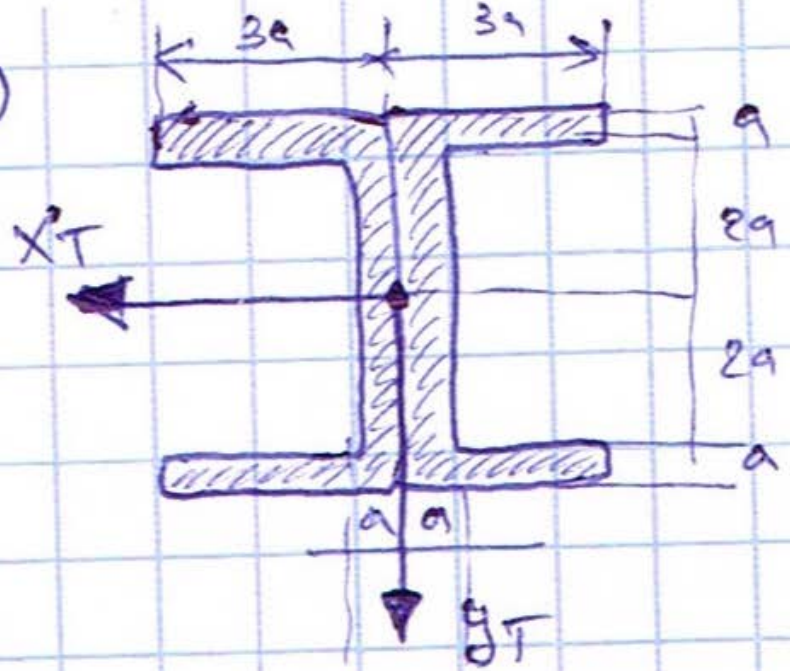
c)



$$I_x = \frac{(6a)^4}{12} - 2 \cdot \frac{2a(4a)^3}{12} =$$

$$= \frac{1296}{12} a^4 - \frac{128}{12} \cdot a^4$$

$$= \frac{292}{3} a^4$$

$$\sigma_{max} = \frac{M_{sa\,max} \cdot y_{max}}{I_x} = \frac{2F \cdot 3 \cdot 3a}{292 a^4} = \frac{9}{146} \cdot \frac{F}{a^3}$$