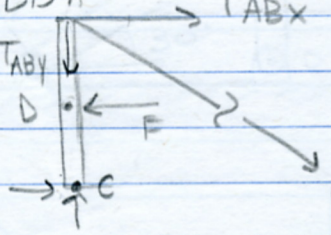
8.1.8 a: $F = \int \rho g h w \, dz \quad h = z \Rightarrow \rho g w \int z \, dz$

$\rho g w [z^2/2]_0^h \quad F = 1/2 \, \rho g h^2 w$

$= 1/2 \gamma g h^2 w$

b FBD A

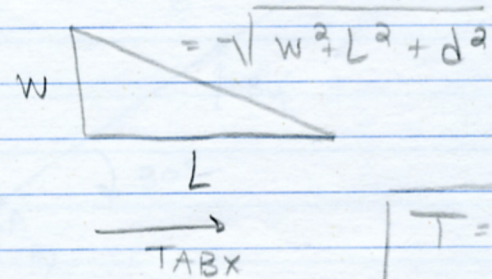


$\circlearrowright \Sigma \vec{M}_{/C} = \vec{0}$

$[r_{C/A} \times T_{ABx}] - [\vec{r}_{C/D} \times F] = 0$

$w T_{ABx} = 1/2 w \times 1/2 \gamma g h^2 \cdot w$

$T_{ABx} = \frac{g \gamma h^2 w^2}{4w} \quad \frac{g \gamma h^2 w}{4}$



$T = \frac{\sqrt{w^2 + L^2 + d^2}}{L} \cdot T_x$

$T = \frac{\sqrt{w^2 + L^2 + d^2}}{L} \cdot \frac{g \gamma h^2 w}{4}$