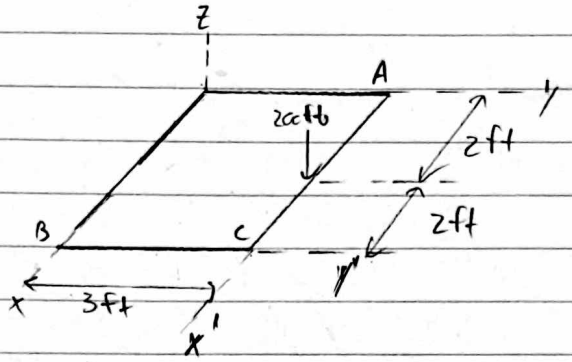
Solutions: 21-S-5.7-MK-02



$\Sigma F_z = 0 = T_A + T_B + T_C - 200\,lb - 500\,lb$

$T_A + T_B + T_C = 700\,lb$

$\Sigma M_{x'} = (1.5\,ft)(500\,lb) - T_B(3\,ft)$

$T_B = \frac{(500\,lb)(1.5\,ft)}{(3\,ft)} \Rightarrow \boxed{T_B = 250\,lb}$

$\Sigma M_{y'} = (200\,lb)(2\,ft) + (500\,lb)(2\,ft) - T_A(4\,ft)$

$T_A = \frac{(200\,lb)(2\,ft) + (500\,lb)(2\,ft)}{4\,ft} \Rightarrow \boxed{T_A = 350\,lb}$

$\Sigma F_z = 0 = T_A + T_B + T_C - 200\,lb - 500\,lb = 0$

$T_C = 200\,lb + 500\,lb - 350\,lb - 250\,lb$

$\boxed{T_C = 100\,lb}$