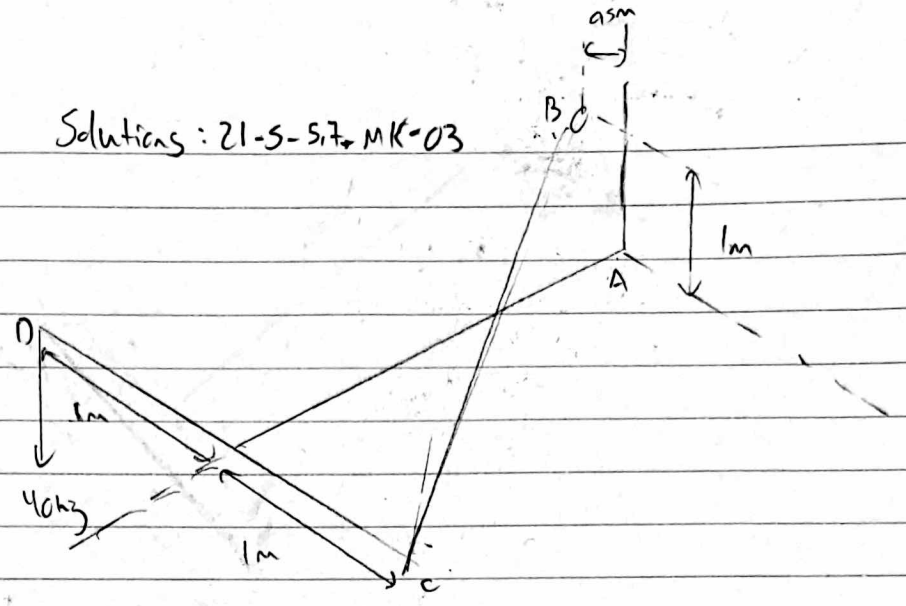
Solutions: 21-5-5.7 MK-03




$A_x = 1177\ N$

$A_y = 588.6\ N$

$A_z = 0$

$M_{Ax} = -784.8\ Nm$

$M_{Ax} = -588.6\ Nm$

$$\Sigma F_x = -\frac{6}{7}T + A_x$$

$$\Sigma F_y = -\frac{3}{7}T + A_y$$

$$\Sigma F_z = \frac{2}{7}T + W \rightarrow \frac{392.4 \times 7}{2} = 1373.4\ N$$

$$\Sigma F_y = A_y = \frac{3}{7}(1373.4) = 588.6\ N \downarrow$$

$$\Sigma F_x = 0 \rightarrow A_y = \frac{6}{7}T = 1177.2\ N \uparrow$$

$$\Sigma M_A = +Wd + T_z(1m) + M_{Ax}$$

$$M_{Ax} = (392.4N)(1m) + \frac{2}{7}(1373.4N) = -784.8\ Nm \circlearrowleft$$

$$\Sigma M_{Az} = -(T_y)(3m) + T_x(6m) - (M_A)_z$$

$$M_{Az} = +\frac{3}{7}(1373.4\ N)(3) + \frac{6}{7}(1373.4)(6m) = +588.6\ Nm \circlearrowleft$$