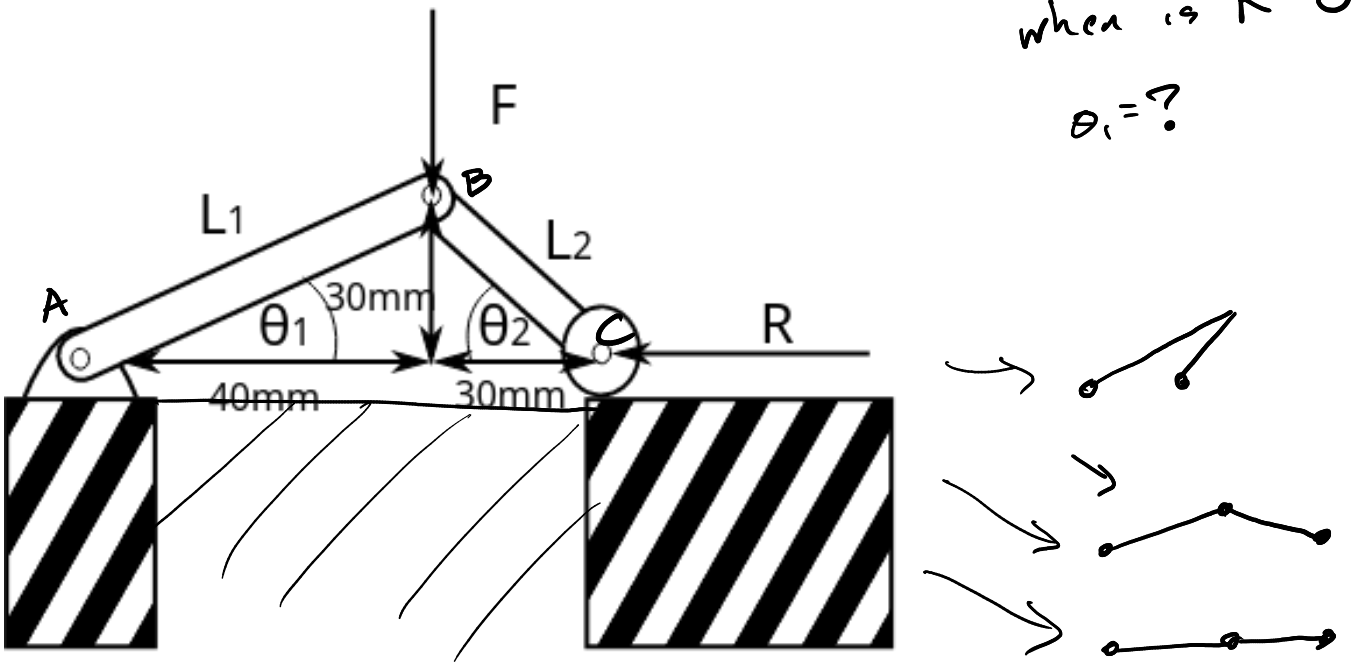
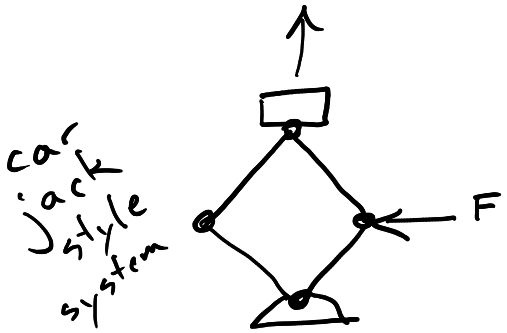
when is $R = 0$

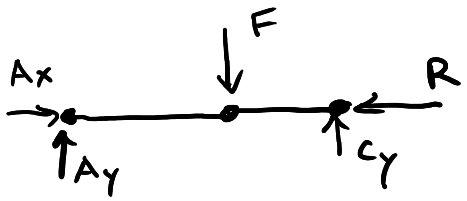
$\theta_1 = ?$





case1

$\theta_1 = 0°$

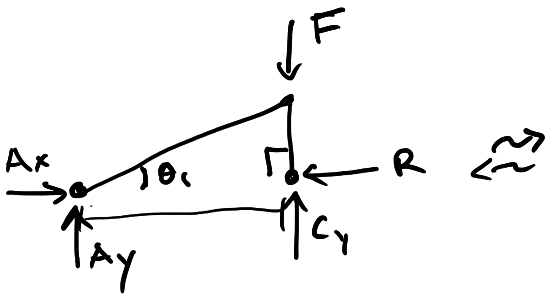


technically $\theta \approx 0$

$R = \pm\infty$ N

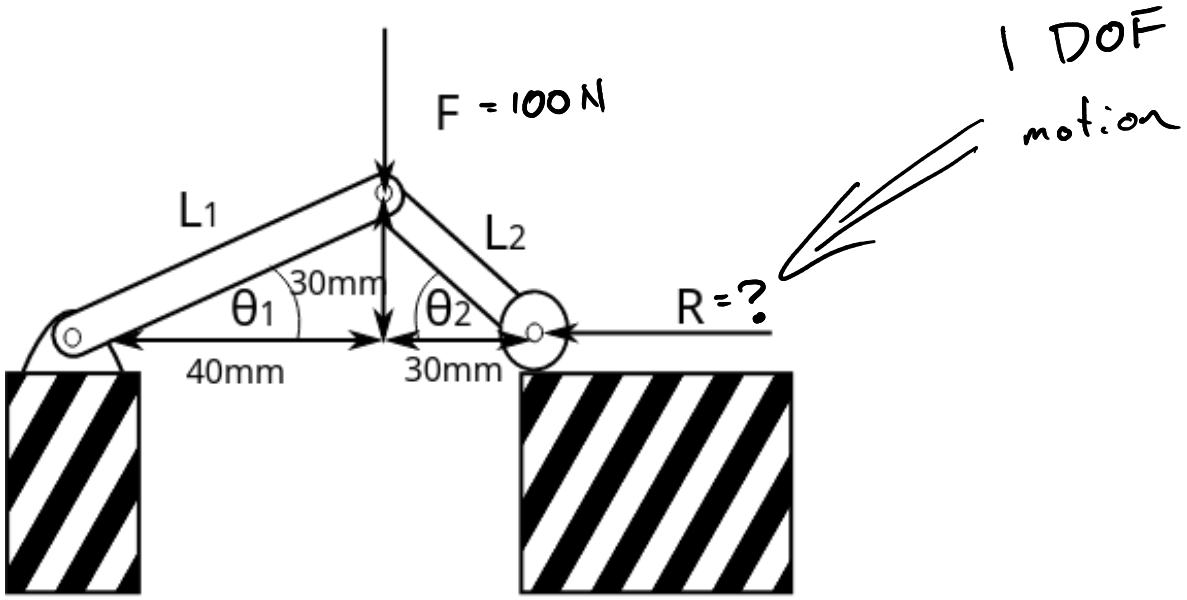
case2

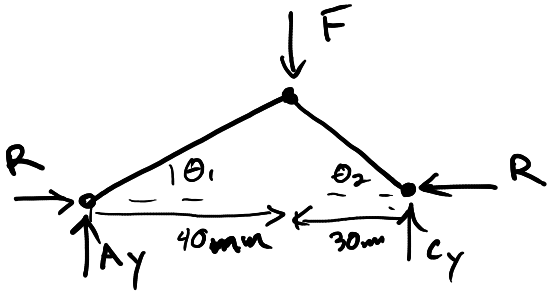
$\theta_2 = 90°$



$\theta_2 = 90°$

$R = 0$ N





$\sin\theta_1 = \frac{3}{5}$

$\theta_2 = 45°$

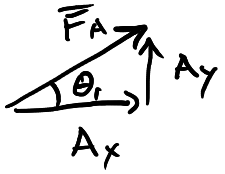
$\Sigma F_x = A_x - R = 0 \rightarrow R = A_x$

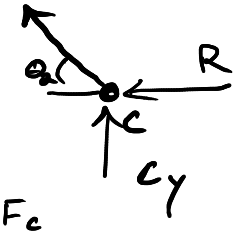
$\Sigma F_y = A_y + C_y - F = 0$

$\Sigma M_c = 30mm \cdot F - 70mm \cdot A_y \rightarrow A_y = \frac{3}{7}\,100N$

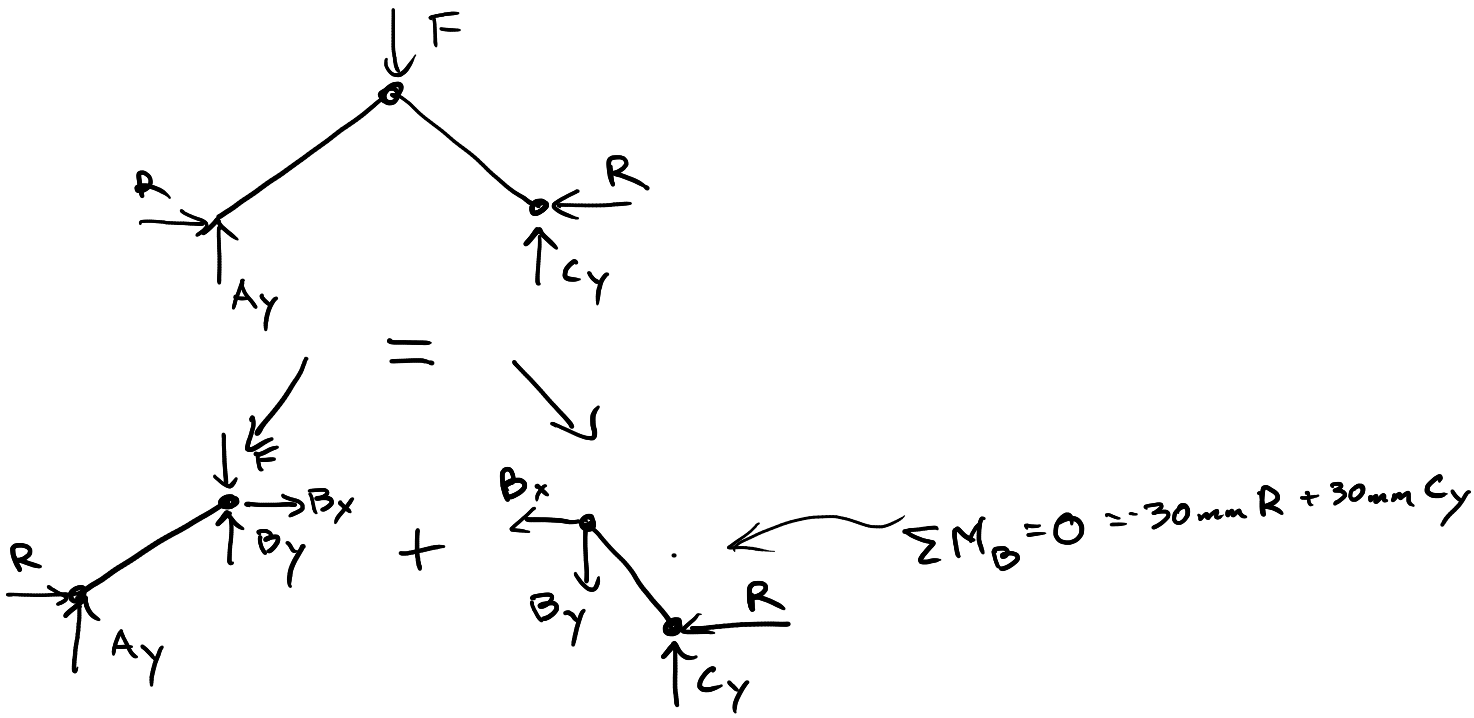
$\downarrow$

$C_y = \frac{4}{7}\,100N$

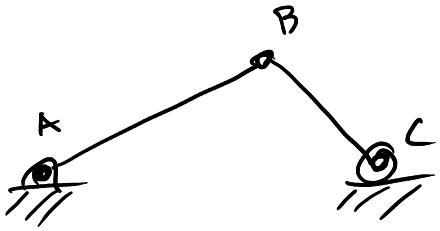




$\frac{C_y}{R} = \tan\theta_2$



If you have motion, is $\Sigma M = 0$?



quasi static assumptions

$\Sigma M_A = \frac{d}{dt}(h_A)$

if $m \sim 0$

$\Sigma M_A = 0$

if $\frac{d}{dt}(I_A \dot{\theta})$

$\Sigma M \sim 0$