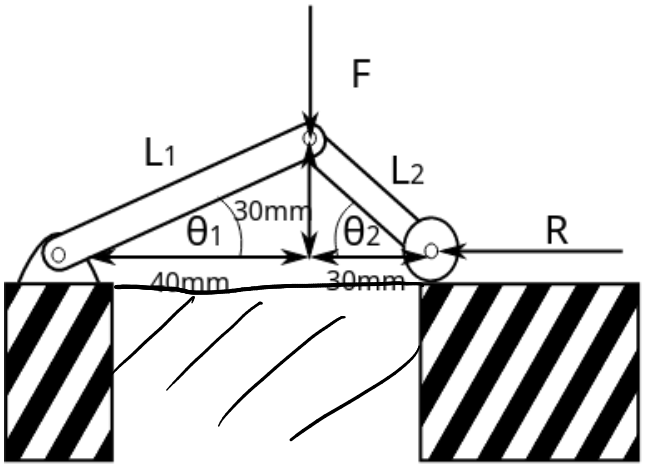
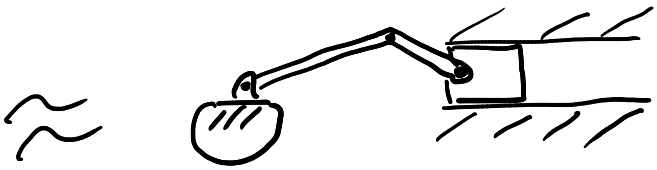
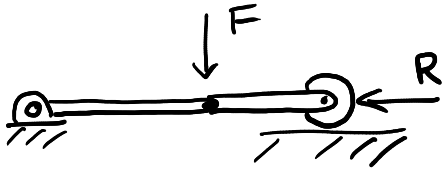


(a) when does R=0?

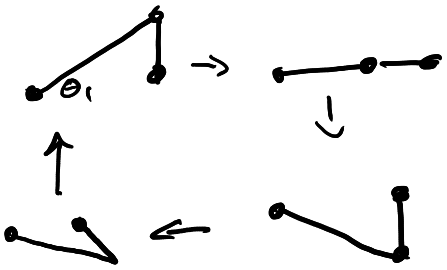


case 1 → $\theta_1 = 0°$

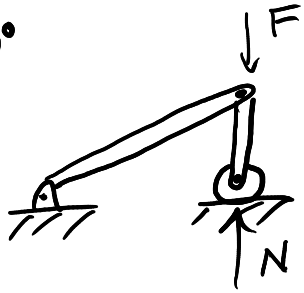


R = 100 N

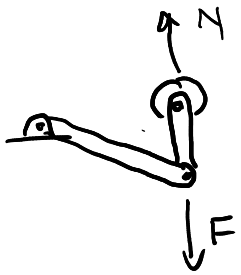
case 2 → $\theta_1 = 90°$

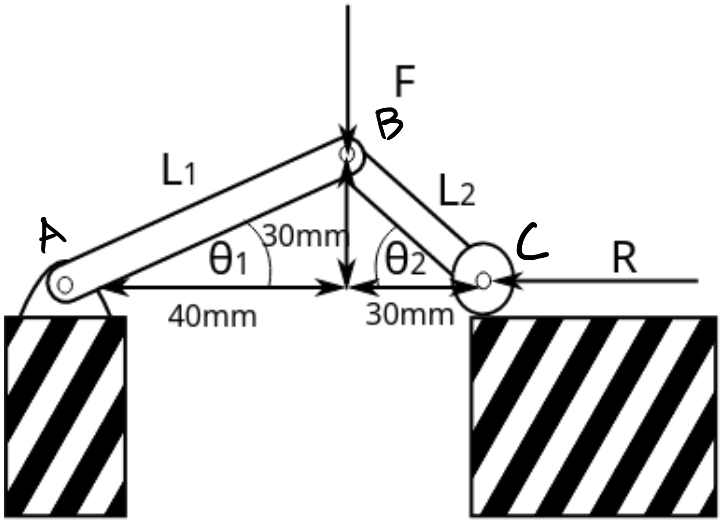


case 3 → $\theta_2 = 90°$

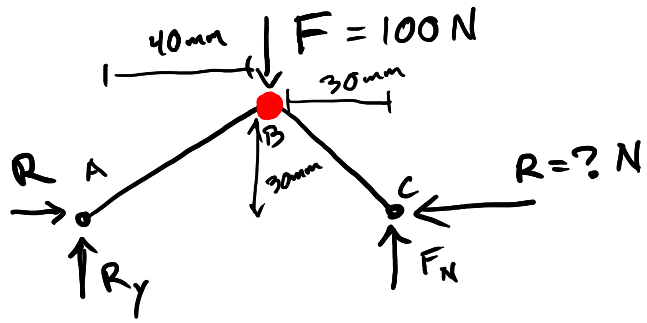


or -90°





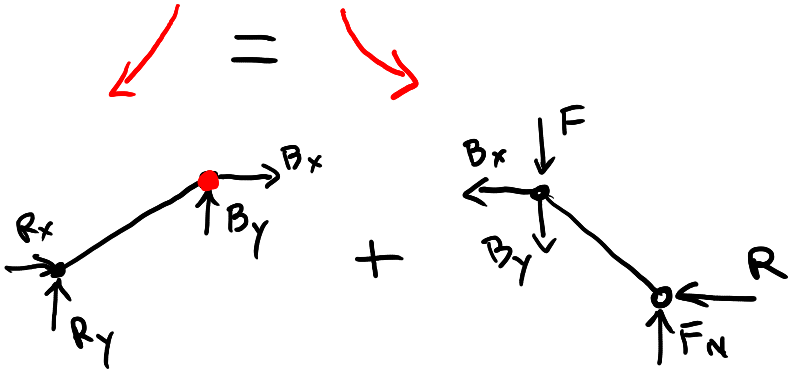
← in this config, what is R?



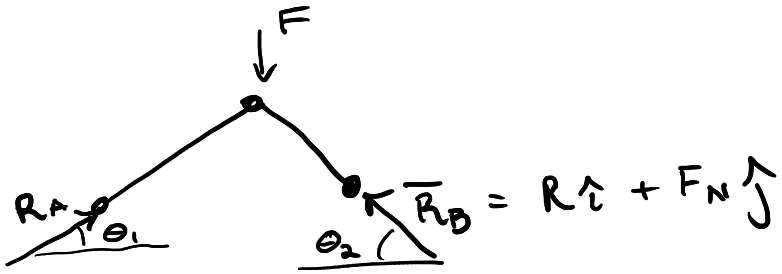
$$\begin{cases} \sum F_x = 0 = R_x - R \rightarrow R_x = R \\ \sum F_y = 0 = R_y + F_N - F \\ \sum M_A = -40mm \cdot 100N + 70mm \cdot F_N \end{cases}$$

$$F_N = \frac{4}{7} \cdot 100N$$

$$R_y = \frac{3}{7} \cdot 100N$$



$$\sum M_B = 30mm \cdot R - 30mm \cdot R + 30mm \cdot F_N - 40mm \cdot R_y$$



$$\bar{R}_B = R\hat{\imath} + F_N\hat{\jmath}$$