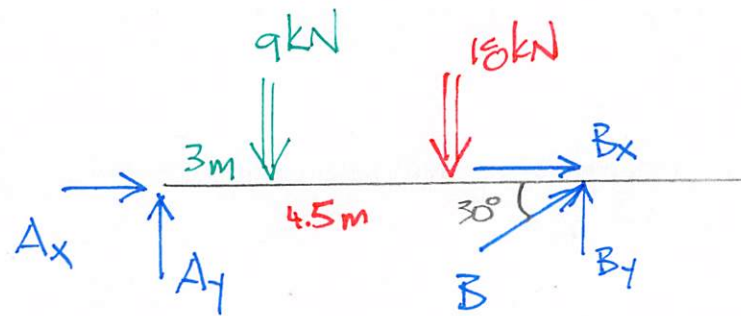
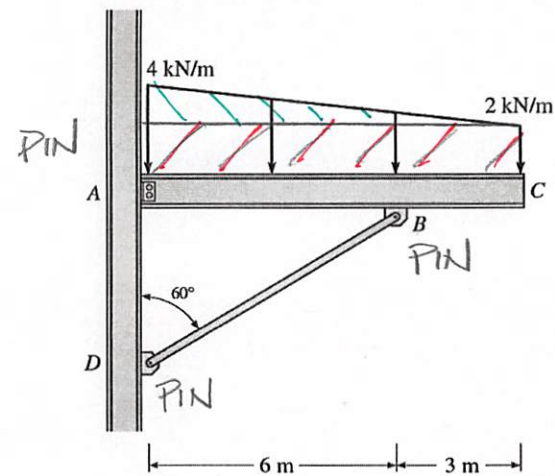


**Example 2a-3: Find the reactions**



$$B_x = B \cos 30^\circ$$

$$B_y = B \sin 30^\circ$$

$$\sum M_B = 0 = -9k(3m) - 18kN(4.5m) + \underline{B \sin 30^\circ}(6m)$$

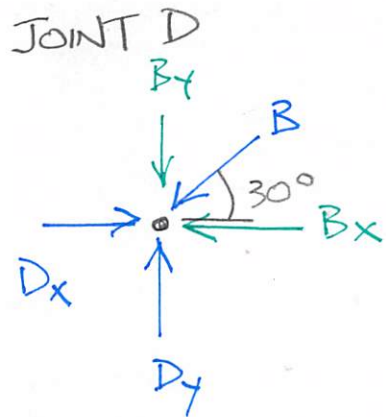
$$\underline{B = 36kN}$$

$$+\uparrow \sum F_y = 0 = A_y + B \sin 30^\circ - 9kN - 18kN$$

$$\underline{A_y = 9kN}$$

$$+\rightarrow \sum F_x = 0 = A_x + B \cos 30^\circ$$

$$\underline{A_x = -31.2kN}$$



$$+\uparrow \sum F_y = 0 = D_y - B \sin 30^\circ$$

$$\underline{D_y = 18kN}$$

$$+\rightarrow \sum F_x = 0 = D_x - B \cos 30^\circ$$

$$\underline{D_x = 31.2kN}$$