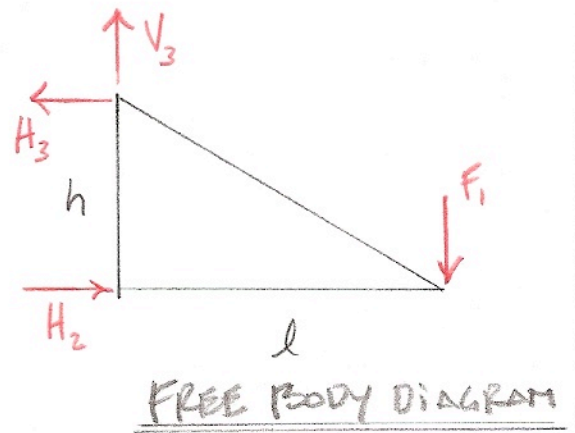
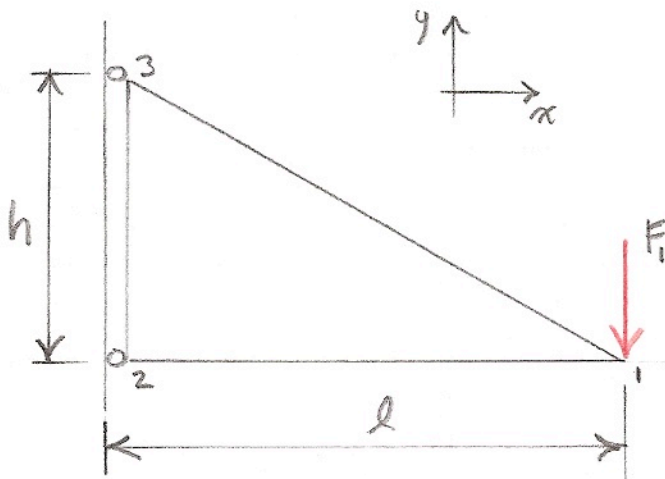


# BOOMILEVER STATICS



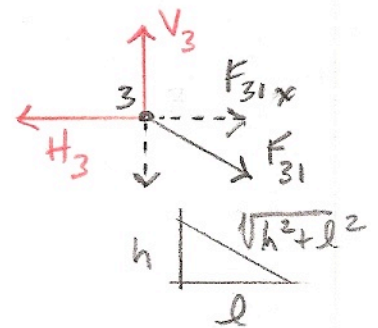
THE SUM OF MOMENTS ABOUT ANY POINT MUST BE ZERO  
 $\therefore \sum M_2 = 0 = H_3(h) - F_1(l) \quad H_3 = \frac{l}{h} F_1$

TENSION IN TOP CHORD

THE SUM OF FORCES AT ANY JOINT MUST BE ZERO

$$\therefore \sum F_{x_3} = 0 = -H_3 + \frac{l}{\sqrt{h^2+l^2}} F_{31}$$

$$F_{31} = \left[ \frac{\sqrt{h^2+l^2}}{l} \right] H_3$$



THE SUM OF ALL FORCES ACTING ON THE BOOMILEVER MUST BE ZERO

$$\therefore \sum F_x = 0 = H_2 - H_3 \quad H_2 = H_3$$

THE TENSION FORCE IN THE TOP CHORD

$$F_{31} = \left[ \frac{\sqrt{h^2+l^2}}{h} \right] F_1$$

THE COMPRESSION FORCE IN THE BOTTOM CHORD

$$F_{21} = \frac{l}{h} F_1$$