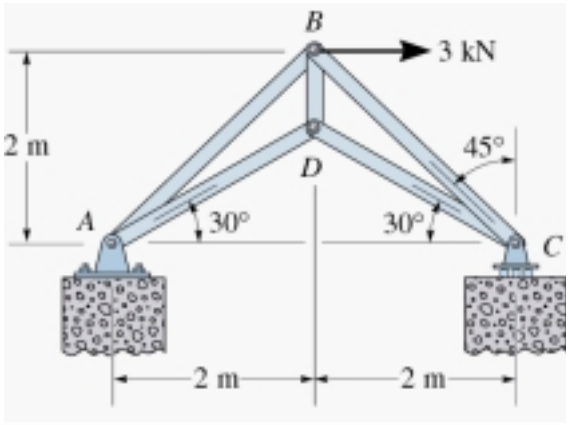
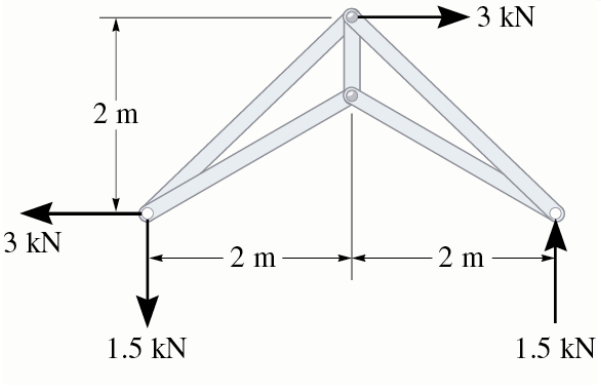
Problem 1:

Determine the support reactions in the joints of the following truss.



Solution: We start with FBD and calculate the support reactions at A and C:



$$\sum F_x = 0 \qquad \sum M_A = 0$$

$$-A_x + 3 \text{ kN} = 0 \qquad C_y(4) - 3 \text{ kN}(2) = 0$$

$$A_x = 3 \text{ kN} \qquad C_y = 1.5 \text{ kN}$$

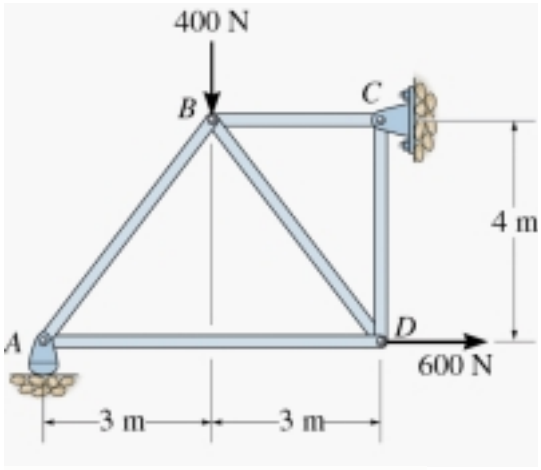
$$\sum F_y = 0$$

$$C_y - Ay = 0$$

$$A_y = 1.5 \text{ kN}$$

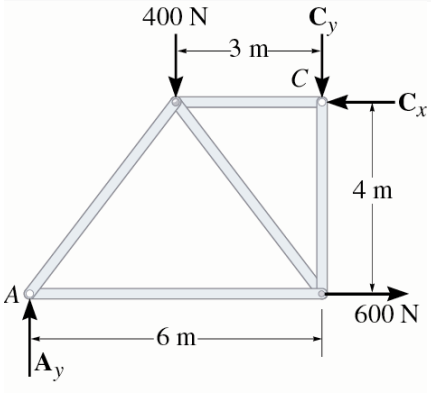
Problem 2:

Determine the support reactions in the joints of the following truss.



Solution:

We start with FBD and calculate the support reactions at A and C:



$$\sum F_x = 0$$

$$600 - C_x = 0$$

$$C_x = 600 \text{ N}$$

$$\sum M_C = 0 \quad (+\text{ccw})$$

$$-A_y(6) + 400(3) + 600(4) = 0$$

$$A_y = 600 \text{ N}$$

$$\sum F_y = 0$$

$$A_y - 400 - C_y = 0$$

$$C_y = 200 \text{ N}$$