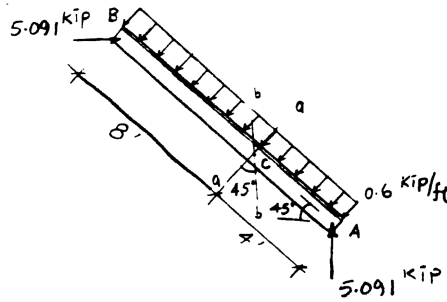
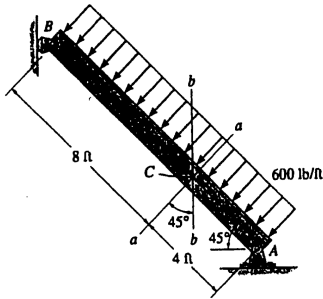
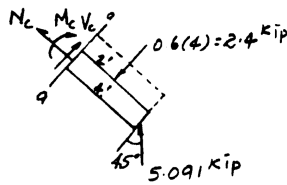


*1-12 Determine the resultant internal loadings acting on (a) section $a-a$ and (b) section $b-b$. Each section is located through the centroid, point C .



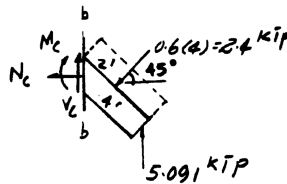
(a)

$$\begin{aligned} \rightarrow + \Sigma F_x = 0; & \quad N_C + 5.091 \sin 45^\circ = 0 \\ & \quad N_C = -3.60 \text{ kip} \quad \text{Ans} \\ \nearrow + \Sigma F_y = 0; & \quad V_C + 5.091 \cos 45^\circ - 2.4 = 0 \\ & \quad V_C = -1.20 \text{ kip} \quad \text{Ans} \\ \curvearrowright + \Sigma M_C = 0; & \quad -M_C - 2.4(2) + 5.091 \cos 45^\circ(4) = 0 \\ & \quad M_C = 9.60 \text{ kip} \cdot \text{ft} \quad \text{Ans} \end{aligned}$$



(b)

$$\begin{aligned} \leftarrow + \Sigma F_x = 0; & \quad N_C + 2.4 \cos 45^\circ = 0 \\ & \quad N_C = -1.70 \text{ kip} \quad \text{Ans} \\ + \uparrow \Sigma F_y = 0; & \quad V_C + 5.091 - 2.4 \sin 45^\circ = 0 \\ & \quad V_C = -3.39 \text{ kip} \quad \text{Ans} \\ \curvearrowright + \Sigma M_C = 0; & \quad -M_C - 2.4(2) + 5.091 \cos 45^\circ(4) = 0 \\ & \quad M_C = 9.60 \text{ kip} \cdot \text{ft} \quad \text{Ans} \end{aligned}$$



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