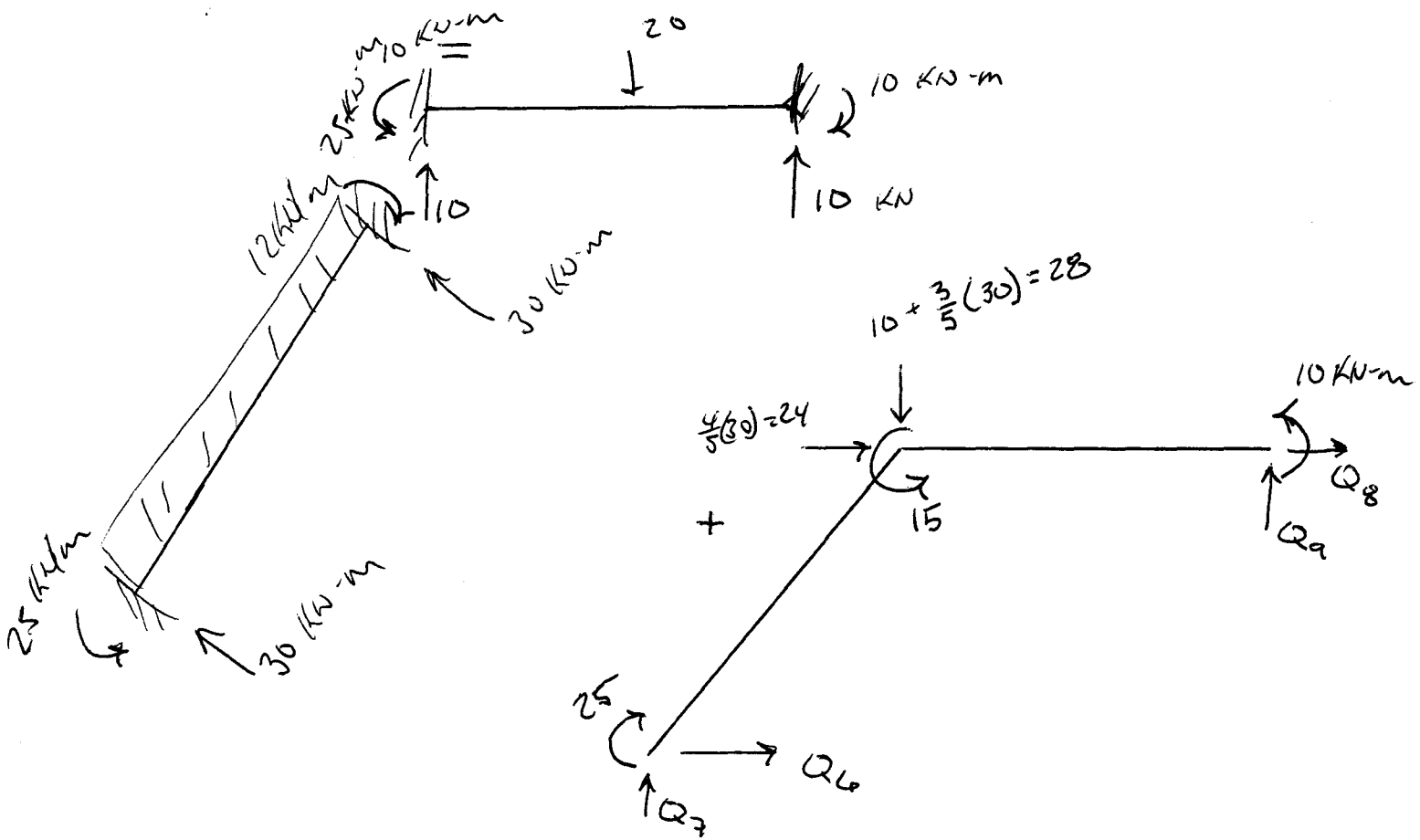
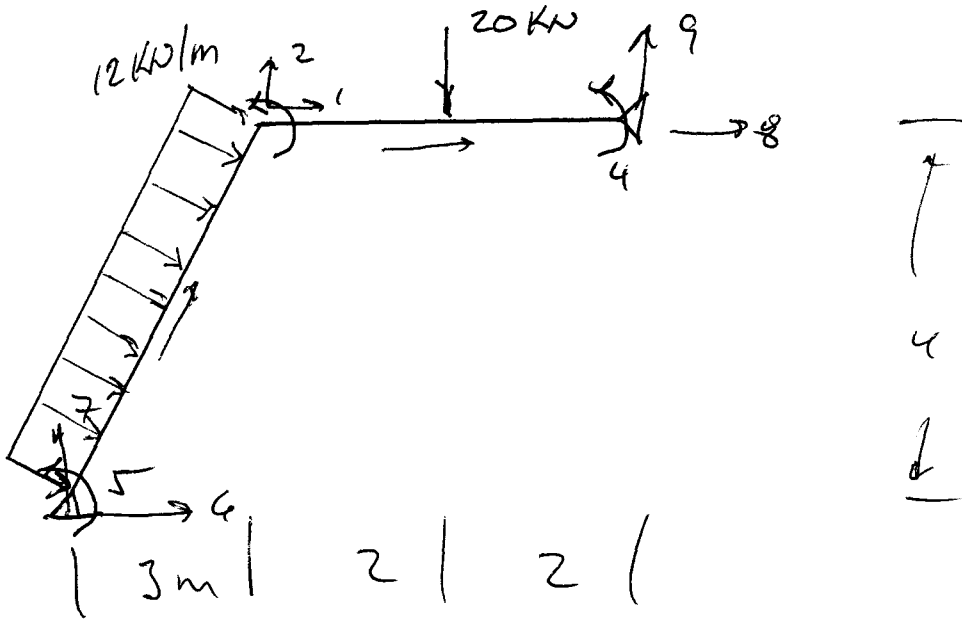


FRAME PROBLEMS W/ SLOPED MEMBERS



$$Q_f = \begin{pmatrix} -24 \\ +28 \\ +15 \\ -10 \\ +25 \\ -24 \\ 18 \\ 0 \\ 16 \end{pmatrix}$$

$$Q = \begin{pmatrix} 24 \\ -28 \\ +15 \\ +10 \\ -25 \\ Q_6 \\ Q_7 \\ Q_8 \\ Q_9 \end{pmatrix}$$

$$D = \begin{pmatrix} D_1 \\ D_2 \\ D_3 \\ D_4 \\ D_5 \\ 0 \\ 0 \\ 0 \\ 0 \end{pmatrix}$$

GET k_1 & k_2 & COMBINE TO FORM K .

USE $Q = K D$ TO SOLVE FOR UNKNOWN D TERMS & BACK SUB TO GET UNKNOWN Q .

ADD $Q + Q_f$ TO GET GLOBAL REACTIONS

TO GET LOCAL FORCES

INCLUDED

$$\begin{pmatrix} gN_{x'} \\ gN_{y'} \\ gN_z \\ gF_{x'} \\ gF_{y'} \\ gF_z \end{pmatrix} = \begin{pmatrix} k' T \\ \#1 \end{pmatrix} \begin{pmatrix} D_6 \\ D_7 \\ D_5 \\ D_1 \\ D_2 \\ D_3 \end{pmatrix} + \begin{pmatrix} 0 \\ 30 \\ 25 \\ 0 \\ 30 \\ -25 \end{pmatrix}$$

HORIZONTAL

$$\begin{bmatrix} q_{N1} \\ q_{N2} \\ q_{F1} \\ q_{F2} \end{bmatrix} = \begin{bmatrix} A_2^T \\ T_2 \end{bmatrix} \begin{bmatrix} D_1 \\ D_2 \\ D_3 \\ D_4 \end{bmatrix} = \begin{bmatrix} 0 \\ 10 \\ 10 \\ 0 \\ 10 \\ -10 \end{bmatrix}$$

HW 16.9 & 16.10