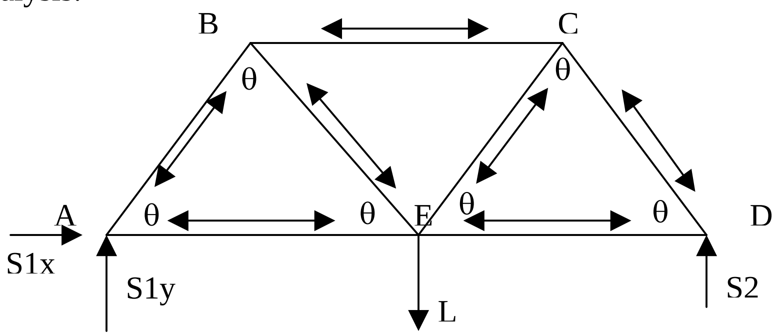
Truss analysis:



Assume forces in truss are as indicated. Then the forces at each node are as follows:

At A: $S1x - F_{AE} - F_{AB}\cos\theta = 0$

$S1y - F_{AB}\sin\theta = 0$

At B: $F_{AB}\cos\theta - F_{BE}\cos\theta - F_{BC} = 0$

$F_{AB}\sin\theta + F_{BE}\sin\theta = 0$

At C: $F_{BC} + F_{CE}\cos\theta - F_{CD}\cos\theta = 0$

$F_{CE}\sin\theta + F_{CD}\sin\theta = 0$

At D: $F_{DE} + F_{CD}\cos\theta = 0$

$S2 - F_{CD}\sin\theta = 0$

At E: $F_{AE} - F_{DE} + F_{BE}\cos\theta - F_{CE}\cos\theta = 0$

$-F_{BE}\sin\theta - F_{CE}\sin\theta - L = 0$

Then these equations can be put into matrix form as:

$$\begin{pmatrix} 1 & 0 & -\cos & -1 & 0 & 0 & 0 & 0 & 0 & 0 \\ 0 & 1 & -\sin & 0 & 0 & 0 & 0 & 0 & 0 & 0 \\ 0 & 0 & \sin & 0 & \sin & 0 & 0 & 0 & 0 & 0 \\ 0 & 0 & \cos & 0 & -\cos & -1 & 0 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 & 0 & 1 & \cos & -\cos & 0 & 0 \\ 0 & 0 & 0 & 0 & 0 & 0 & \sin & \sin & 0 & 0 \\ 0 & 0 & 0 & 0 & 0 & 0 & 0 & -\sin & 0 & 1 \\ 0 & 0 & 0 & 0 & 0 & 0 & 0 & \cos & 1 & 0 \\ 0 & 0 & 0 & 1 & \cos & 0 & \cos & 0 & -1 & 0 \\ 0 & 0 & 0 & 0 & -\sin & 0 & -\sin & 0 & 0 & 0 \end{pmatrix} \begin{pmatrix} S1x \\ S1y \\ F_{AB} \\ F_{AE} \\ F_{BE} \\ F_{BC} \\ F_{CE} \\ F_{CD} \\ F_{DE} \\ S2 \end{pmatrix} = \begin{pmatrix} 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ L \end{pmatrix}$$