



## Activity 5.1d - Truss Calculation

### Purpose

A truss is formed by connecting members with one another with pin connections. We calculate the forces on a truss to accurately predict the type and amount of force each member must carry. The sizing of members determines the weight of the truss and is a factor in the final cost.

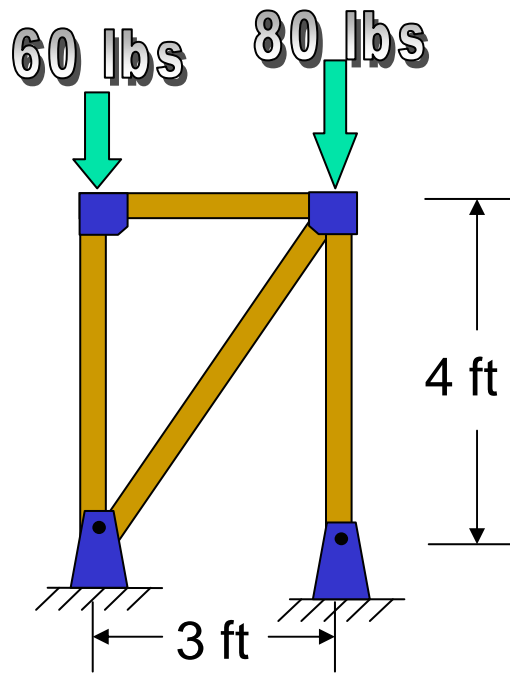
### Equipment

Paper & Pencil  
MDSolids program

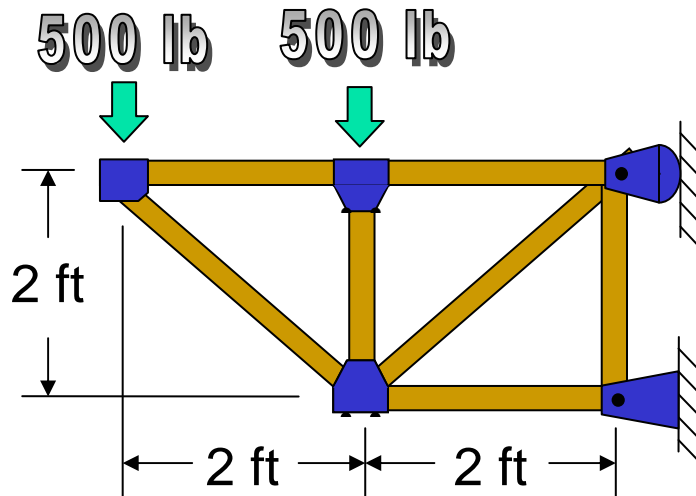
### Procedure

1. Sketch a diagram for each truss replacing the supports with the appropriate reaction forces.
2. Predict which beams would be in tension, which would be in compression, and which would be supporting the most force.
3. Draw the truss in MD Solids.
4. Record the forces at the supports and in each beam.

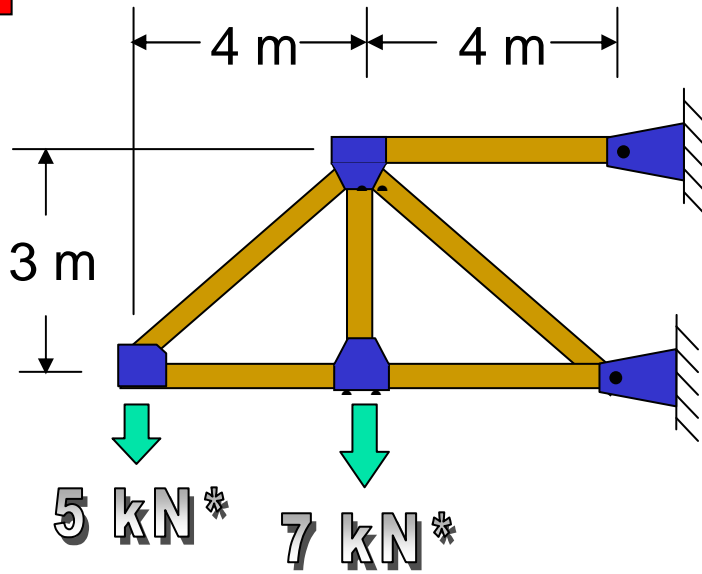
#1



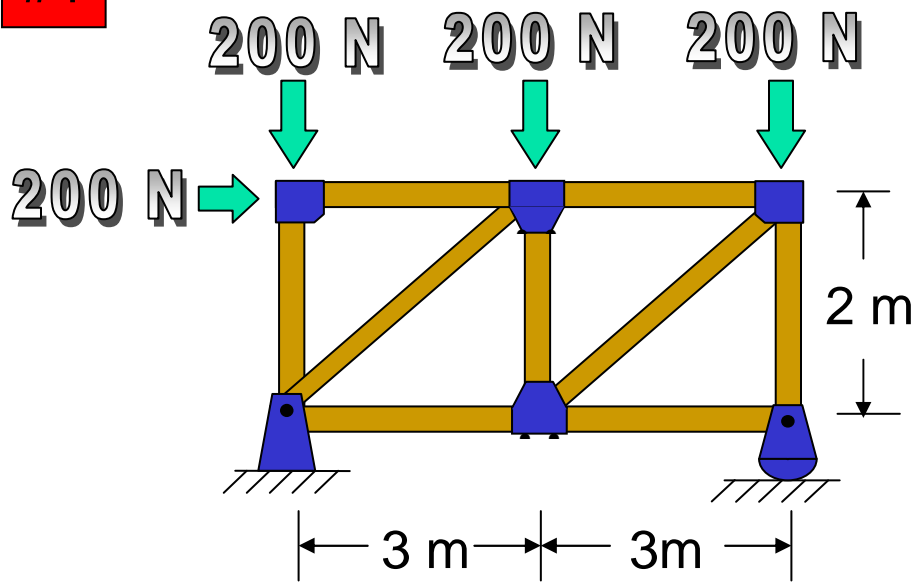
#2



#3



#4



### Conclusion

1. Were your predictions for the forces accurate? If not why were your predictions inaccurate?

2. How would your analysis help in the selection of size and kind of material you would select for the truss?