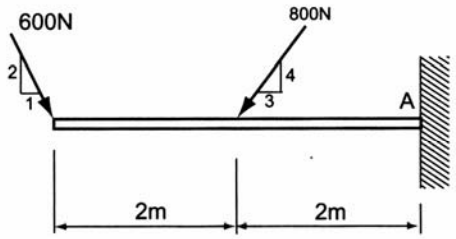
ENDS 231. Assignment #3

Date: 6/5/06, *due 6/12/06* *Worth 30 pts.*

Problems: from Onouye, Chapters 3& 4.

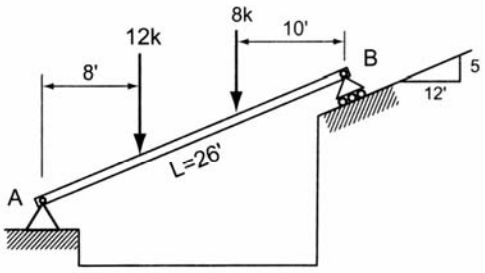
3.2.3 Determine the support reactions developed at ***A*** for the cantilevered balcony beam.



Problem 3.2.3

Partial answers to check with: A_x = +212 N, A_y = +1,177 N, M_{RA} = -3,428 Nm

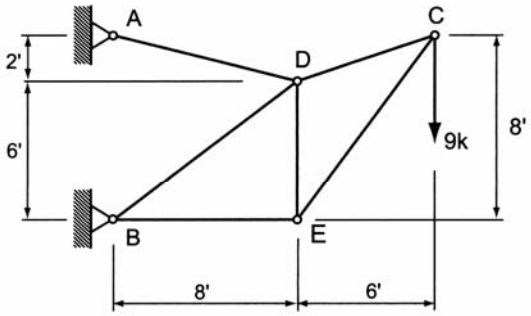
3.2.4 Solve for the support reactions at ***A*** and ***B***.



Problem 3.2.4

Partial answers to check with: A_x = +3.08 k A_y = +12.62 k, B = 8 k.

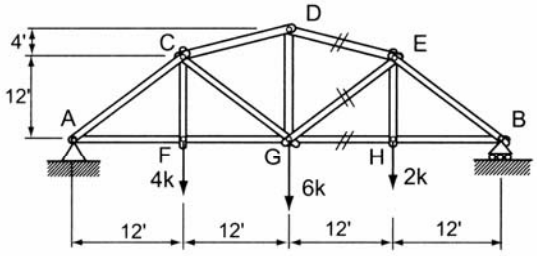
4.1.8 A cantilever truss supports a single load of 9 k at the free end. Solve for the support reactions and determine all member forces using the method of joints.



Problem 4.1.8

Partial answers to check with: A = 16.25 k, B_x = +15.75 k, BD = -8.43 k , DE = 12 k, DC = 9.49 k, EC = -15 k.

4.1.15 A bowstring or crescent truss is loaded as shown. Determine the member forces in *DE*, *EG*, and *GH*.



Problem 4.1.15

Partial answers to check with: B_y = +5.5 k, A_y = +6.5 k, HG = 5.5 k, ED = -7.12 k, EG = 1.77 k.