

ENDS 231. Extra Credit [Optional]

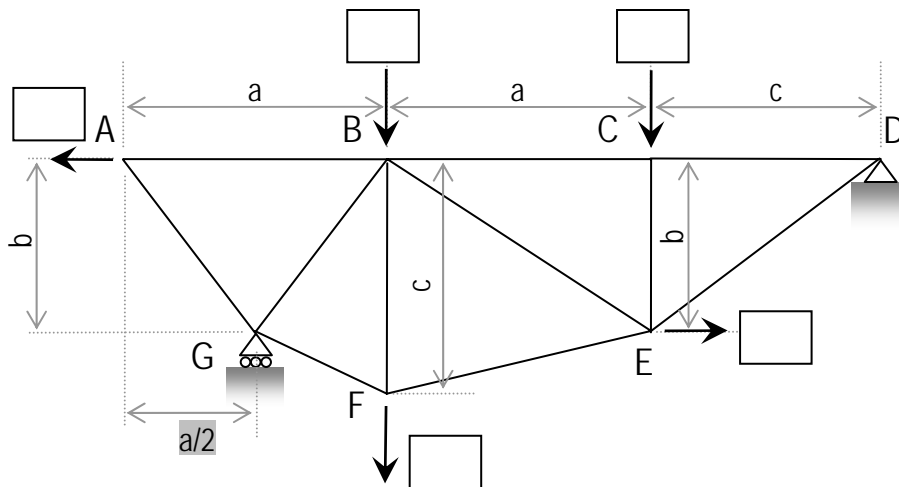
Date: 4/10/07, due 4/26/07(last class)

Worth 16 extra quiz points OR 2/7 of a Pass

Description: To receive extra credit toward your graded work percentage OR your pass/fail percentage, you must work on your own and complete the following problems. (This means that reference books are acceptable to use, but seeking help from any person is prohibited and will result in zero credit.) The values in the following blanks must be filled in by the instructor and recorded as such. Written work must be submitted in the format required for assignments and *no late work will be accepted*. The type of credit requested **MUST** be indicated to receive any credit.

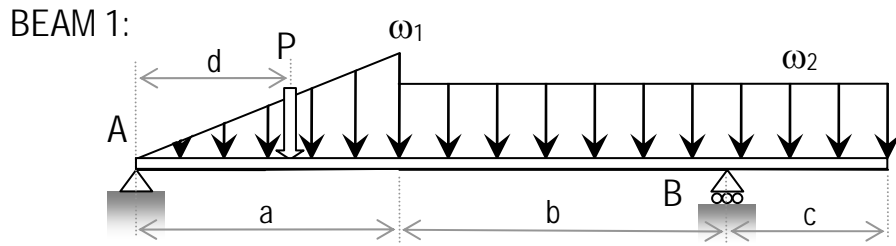
Problem 1: A truss has the following geometry, support conditions and loads. Using the method of sections determine the forces in the members listed.

Dimension	Value (m)	Load	Value (kN)	Member Force
a		at A		
b		at B		
c		at C		
		at E		
		at F		



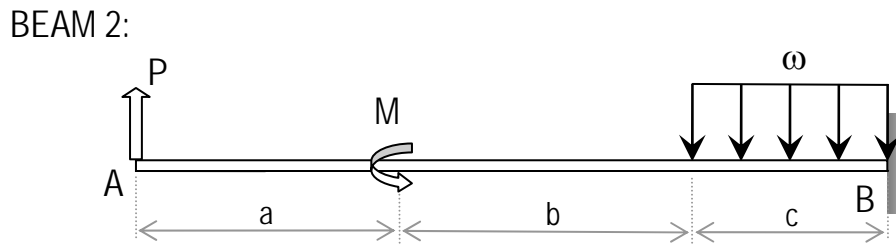
Problem 2: Construct the load, shear and bending moment diagram for the following using the semigraphical method, and verifying key values with the equilibrium method. Identify maximum quantities and locations of shear and bending moment. Multifram2D may be used *only* to verify calculations.

MORE NEXT PAGE



Beam 1:

<i>Dimension</i>	<i>Value (m)</i>	<i>Load</i>	<i>Value</i>
a		P	<i>kN</i>
b		w_1	<i>kN/m</i>
c		w_2	<i>kN/m</i>
d			



Beam 2:

<i>Dimension</i>	<i>Value (m)</i>	<i>Load</i>	<i>Value</i>
a		P	<i>kN</i>
b		M	<i>kN-m</i>
c		w	<i>kN/m</i>