

**ENCE353: Introduction to Structural Analysis
Midterm #1**

Name: _____

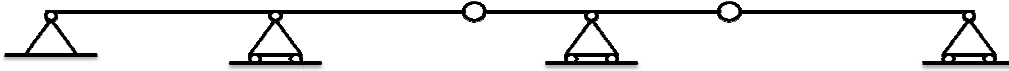
CSI 2017: 9:00-9:50AM, October 10, 2012
Closed book, closed notes, one sheet of notes allowed
Show all work

Problem	Points	Score
1	10	
2	15	
3	25	
Total	50	

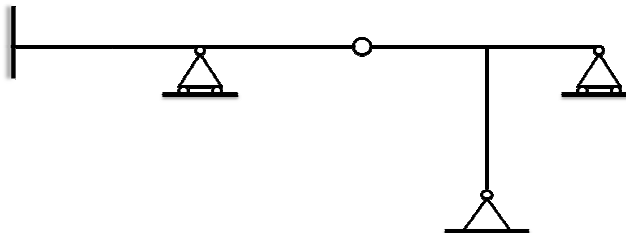
Problem 1 (10 Points)

Classify each of the structures as statically determinate, statically indeterminate, or unstable. If indeterminate, specify the degree of indeterminacy.

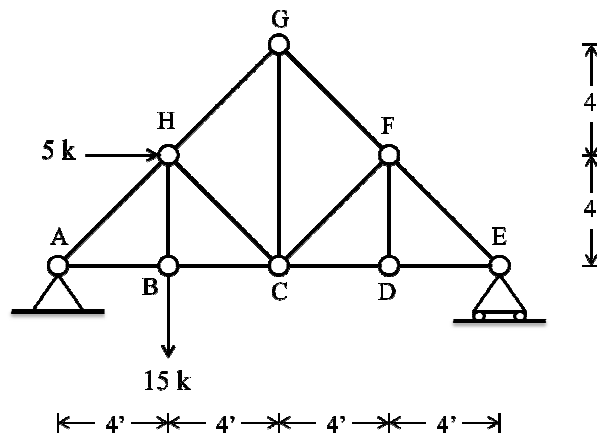
Part A (5 Points)



Part B (5 Points)



Problem 2 (15 Points)



Part A: Determine all zero-force members (5 Points)

Part B: Determine forces in members BC, CH, GH. State whether forces are in tension or compression (10 Points)

Problem 3 (25 Points)

Part A: Determine support reactions (8 Points)

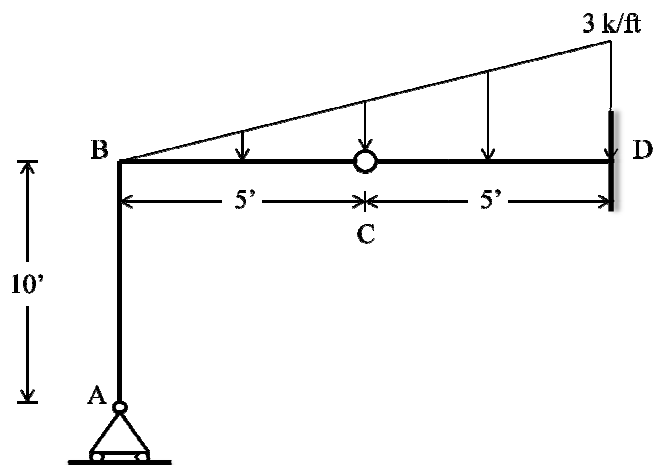
Part B: Determine shear and moment equations as functions of length for BCD (8 Points)

Part C: Draw axial, shear, and moment diagrams (8 Points)

State whether in tension or compression for axial, positive or negative for shear, and show curvature for moment

Label maximum and minimum values and their locations

Part D: Draw the deflected shape of the entire structure (1 Points)



Problem 3 (Continued)