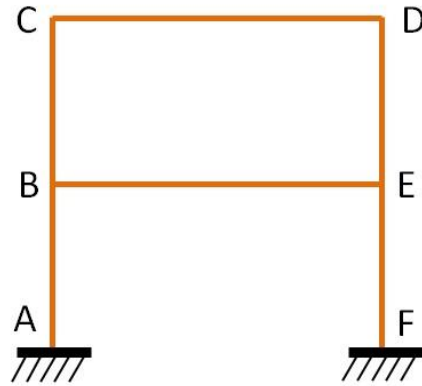




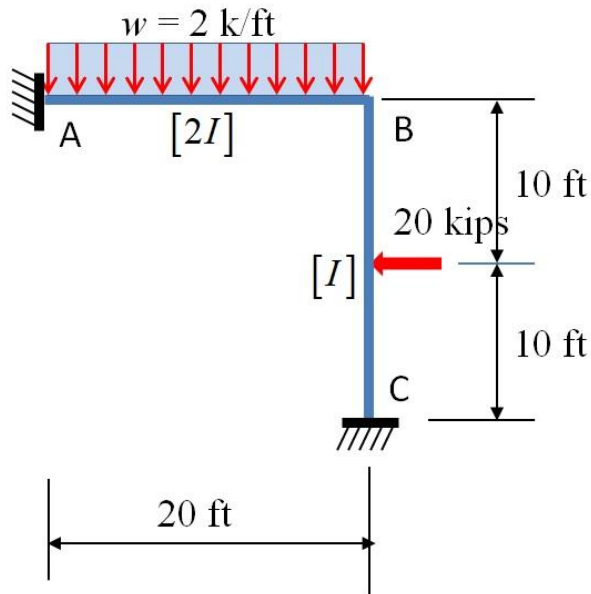
Problem 1



1. Using the slope deflection method, how many unknown must be determined for the frame shown?
 - a. 2
 - b. 4
 - c. 6
 - d. 8
 - e. None of these are correct.



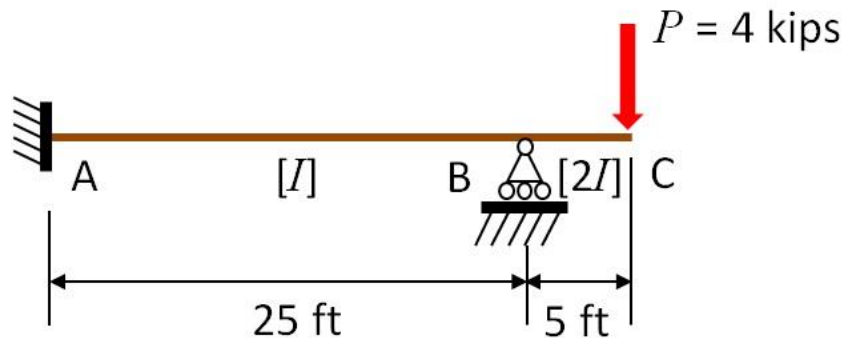
Problem 2



2. Using slope deflection, determine the moment at B, M_{BA} .

- a. 72.3 ft-kips
- b. -66.7 ft-kips
- c. 55.6 ft-kips
- d. 47.2 ft-kips
- e. None of these are correct.

Problem 3



3. A beam with a cantilever as shown is to be analyzed by slope deflection. The moment, M_{BA} is: approximately

- a. 5 ft-kips
- b. 10 ft-kips
- c. 15 ft-kips
- d. 20 ft-kips
- e. None of these are correct.



Classical Methods of Structural Analysis

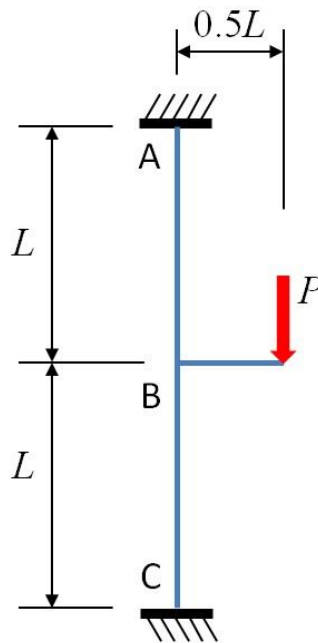
Quiz for Session 6: Indeterminate Structures By Slope Deflection – July 22, 2019

Due: August 12, 8:00 a.m. EDT – Submit through the online form

4. For the beam of Problem 3, the moment M_{AB} is approximately:

- a. 5 ft-kips
- b. 10 ft-kips
- c. 15 ft-kips
- d. 20 ft-kips
- e. None of these are correct.

Problem 5



$EI = \text{constant}$

5. Using slope deflection, determine which direction point B will move under the given load.

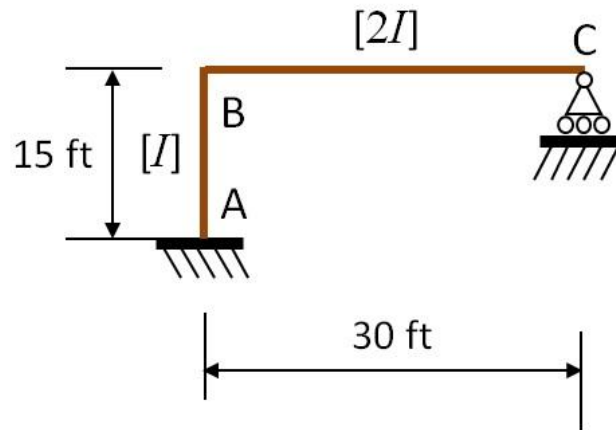
- a. Right
- b. Left
- c. No sway
- d. Depends on the load magnitude
- e. Not enough information provided



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Problem 6

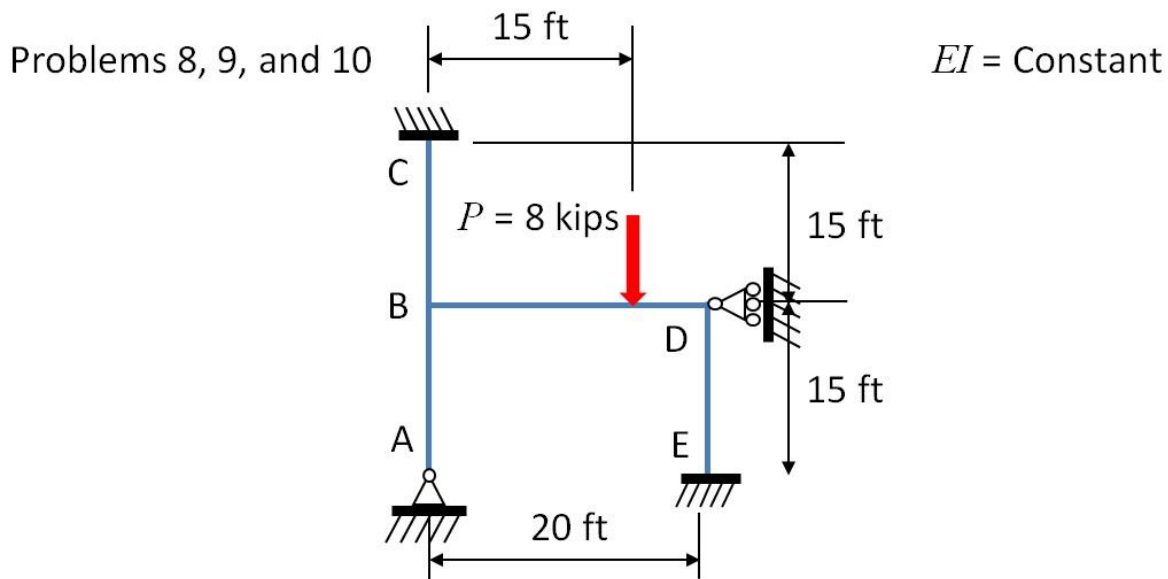


$$I = 301 \text{ in.}^4$$

6. For the structure shown, use slope deflection to determine the approximate moment M_{AB} if the frame is pulled to the right 1.0 in. at C.

- a. -135 ft-kips
- b. -96.4 ft-kips
- c. -57.8 ft-kips
- d. +19.3 ft-kips
- e. None of the above





8. For the structure shown, determine by slope deflection the approximate moment at E.

- a. -8.0 ft-kips
- b. 22.5 ft-kips
- c. -7.0 ft-kips
- d. 5.0 ft-kips
- e. None of the above

9. For the structure of Problem 8, the horizontal reaction at D is approximately:

- a. 0.19 kips to left
- b. 0.51 kips to right
- c. 1.65 kips to right
- d. 0.89 kips to right
- e. None of the above

10. For the structure of Problem 8, the rotation at B is approximately (in units of ft-kips):

- a. $1.27L_{AB}/EI$
- b. $-3.49L_{AB}/EI$
- c. 0
- d. $+3.49L_{AB}/EI$
- e. None of the above

