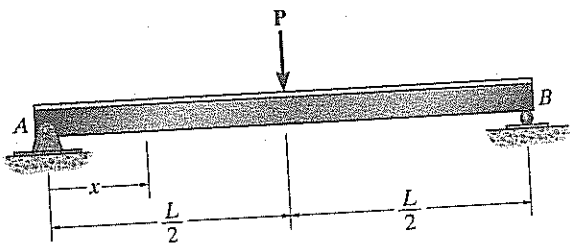


- Hibbeler - 5th Ed. HW 3

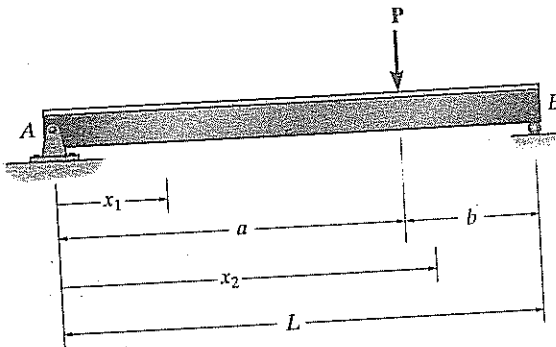
PROBLEMS

8-1. Determine the equation of the elastic curve for the beam using the x coordinate that is valid for $0 \leq x < L/2$. Specify the slope at A and the beam's maximum deflection. EI is constant.



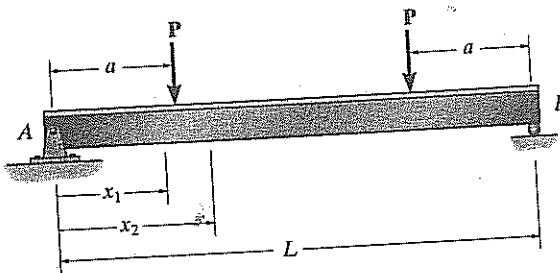
Prob. 8-1

8-2. Determine the equations of the elastic curve using the x_1 and x_2 coordinates. EI is constant.



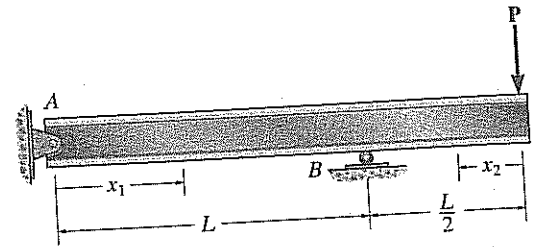
Prob. 8-2

8-3. Determine the equations of the elastic curve for the beam using the x_1 and x_2 coordinates. Specify the slope at A and the maximum deflection. EI is constant.



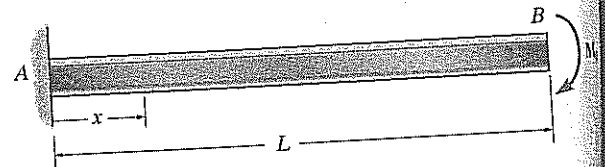
Prob. 8-3

8-4. Determine the equations of the elastic curve for the beam using the x_1 and x_2 coordinates. Specify the beam's maximum deflection. EI is constant.



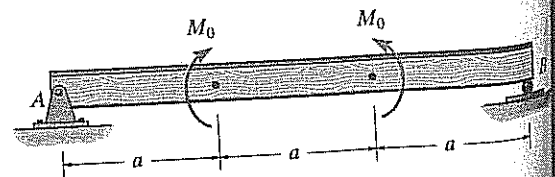
Prob. 8-4

8-5. Determine the elastic curve for the cantilevered beam, which is subjected to the couple moment M_0 . Also compute the maximum slope and maximum deflection of the beam. EI is constant.



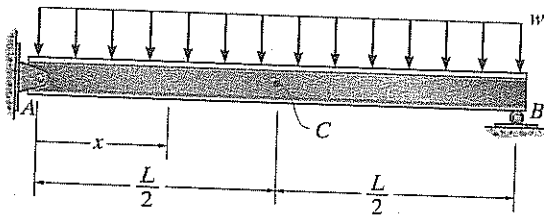
Prob. 8-5

8-6. Determine the maximum deflection of the beam and the slope at A . Use the method of double integration. EI is constant.



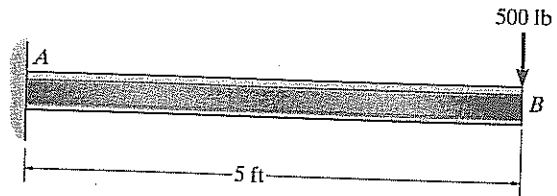
Prob. 8-6

8-7. Determine the equation of the elastic curve using the coordinate x , and specify the slope at point A and the deflection at point C . EI is constant.



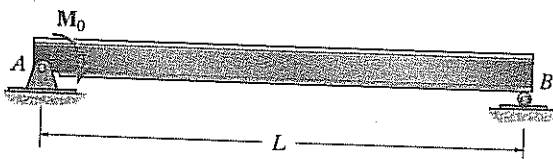
Prob. 8-7

8-10. Use the moment-area theorems and determine the slope and deflection at B . EI is constant.



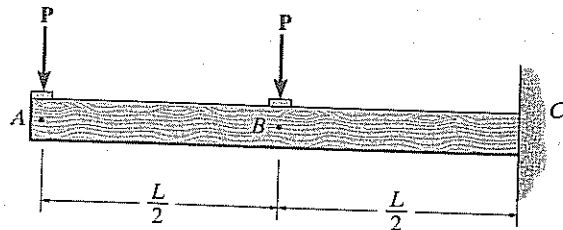
Prob. 8-10

8-8. Determine the maximum slope and maximum deflection of the simply supported beam which is subjected to the couple moment M_0 . Use the method of double integration. EI is constant.



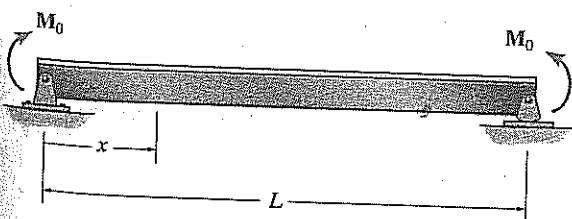
Prob. 8-8

8-11. The beam is subjected to the two loads. Use the moment-area theorems and determine the slope and displacement at points A and B . EI is constant.



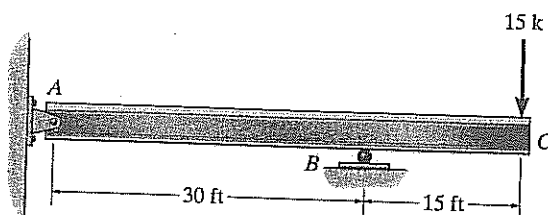
Prob. 8-11

8-9. Determine the elastic curve for the simply supported beam, which is subjected to the couple moments M_0 . Also, compute the maximum slope and the maximum deflection of the beam. EI is constant.



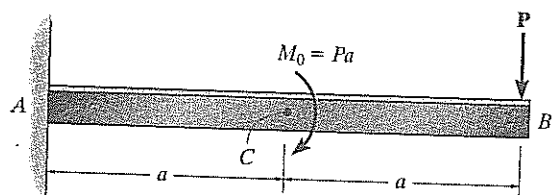
Prob. 8-9

8-12. Use the moment-area theorems to determine the slope and deflection at C . EI is constant.



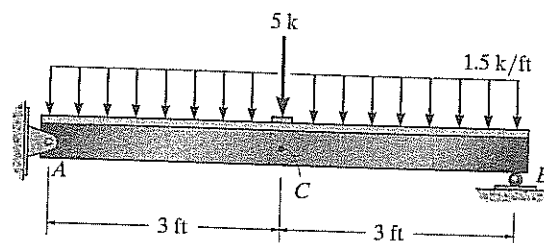
Prob. 8-12

8-21. Use the moment-area theorems and determine the slope at B and the deflection at C . EI is constant.



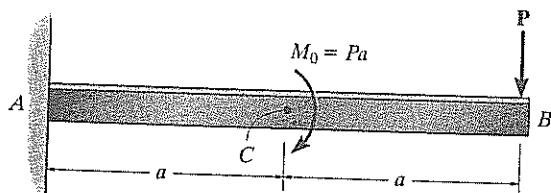
Prob. 8-21

8-24. Use the moment-area theorems and determine the slope at B and the displacement at C . The member is an A-36 steel structural Tee for which $I = 76.8 \text{ in}^4$.



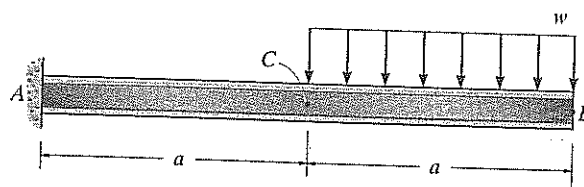
Prob. 8-24

8-22. Use the moment-area theorems and determine the slope at C and the deflection at B . EI is constant.



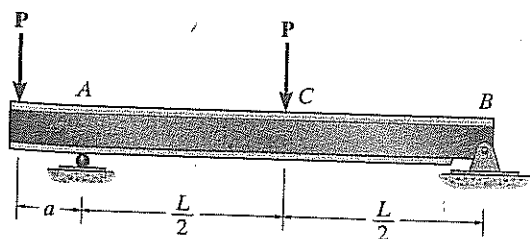
Prob. 8-22

8-25. Use the moment-area theorems and determine the slope at C and displacement at B . EI is constant.



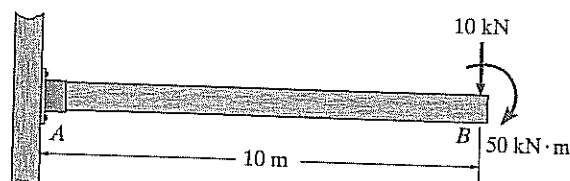
Prob. 8-25

8-23. Use the moment-area theorems and determine the value of a so that the slope at A is equal to zero. EI is constant.



Prob. 8-23

8-26. Use the conjugate-beam method and determine the slope and deflection at B . EI is constant.



Prob. 8-26