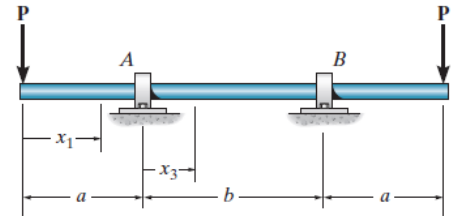


ME 304 Mechanical Engineering Design (1)

Homework(3)

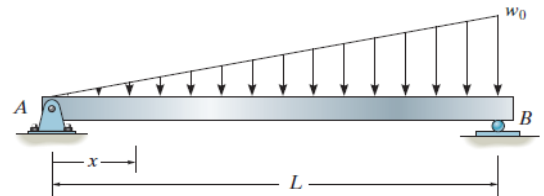
Q1 By Integration

Determine the equations of the elastic curve for the shaft using the x_1 and x_3 coordinates. Specify the slope at A and the deflection at the center of the shaft. EI is constant.



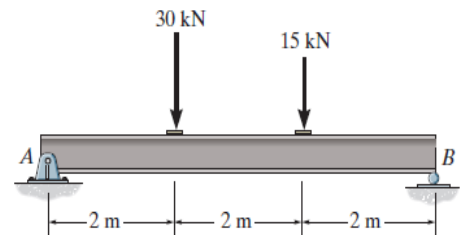
Q2 By Integration

The beam is subjected to the linearly varying distributed load. Determine the maximum deflection of the beam. EI is constant.



Q3 By Discontinuity function

Determine the maximum deflection of the simply supported beam. $E = 200 \text{ GPa}$ and $I = 65.0(10^6) \text{ mm}^4$.



Q4 By Superposition

Determine the slope at A and the deflection at point C of the simply supported beam. The modulus of elasticity of the wood is $E = 10 \text{ GPa}$.

