

CVG2140 – Assignment No. 6 (Deflections)

(Due Date: Friday, March 20th, 2015)

Problem 1. Determine the equations of the elastic curve (deflection curve) for the beam illustrated in Fig. 1 using the x coordinate as shown. Specify the slope at A and the maximum displacement of the shaft. EI is constant.

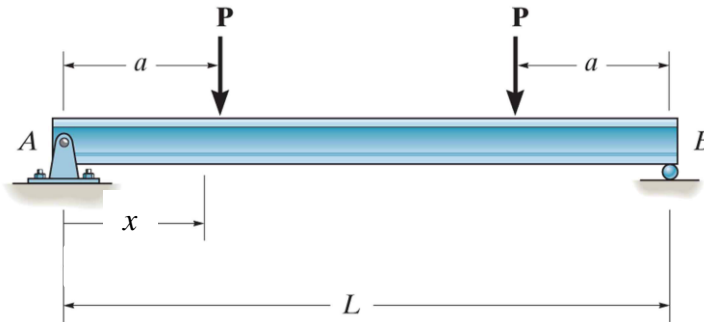


Fig. 1

Problem 2. Determine the equation of the elastic curve, the slope at A , and the deflection at B of the simply supported beam shown in Fig. 2. EI is constant.

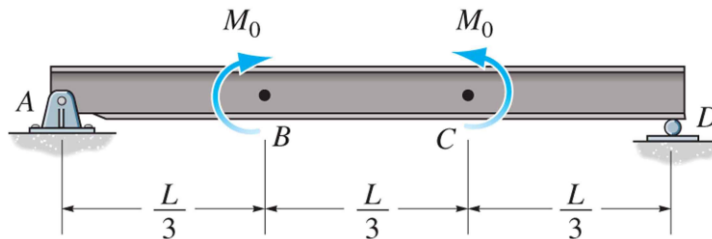


Fig. 2

Problem 3. Determine the maximum deflection of the simply supported beam shown in Fig. 3. $E = 200$ GPa and $I = 65.0 \times 10^6$ mm⁴.

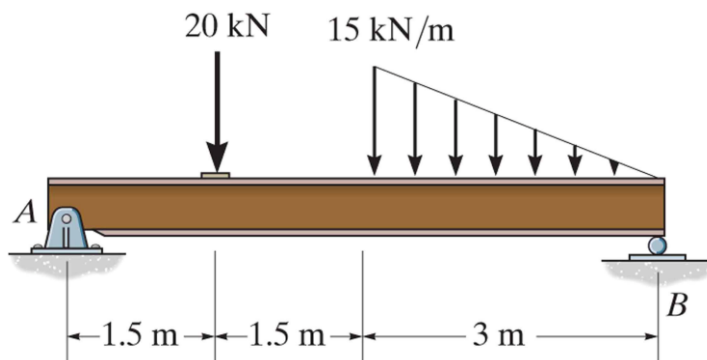


Fig. 3

Problem 4. Determine the displacement at C and the slope at A of the beam shown in Fig. 4.

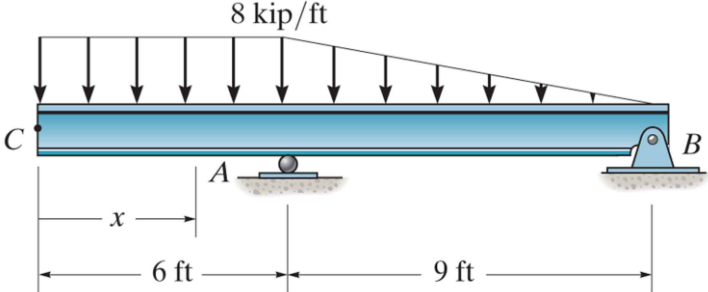


Fig. 4