

COE-C2001 - Foundations of Solid Mechanics

Assignment for Week-5

- (1) Deadline: 12:00, Monday, December 6, 2021
- (2) Free format submission

1. For the cantilever beam and loading as shown in **Fig.1**, determine: (a) the equation of the elastic curve for portion AB of the beam, (b) the deflection at A , and (c) the slope at A . (25 points)
2. The simply supported prismatic beam AB carries a uniformly distributed load w per unit length (**Fig.2**). Determine the equation of the elastic curve and the maximum deflection of the beam. (25 points)
3. For the beam and loading shown in **Fig.3**, determine the reaction at the roller support. (25 points)
4. Determine the axial force of member BC in **Fig.4**. (25 points)

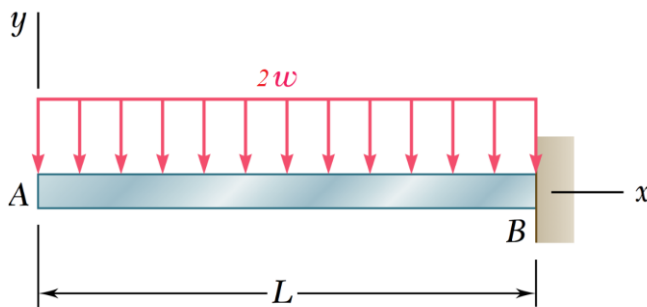


Fig.1

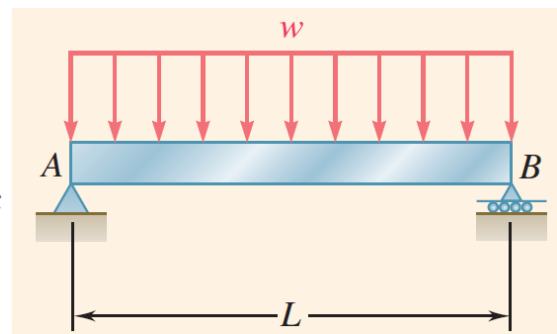


Fig.2

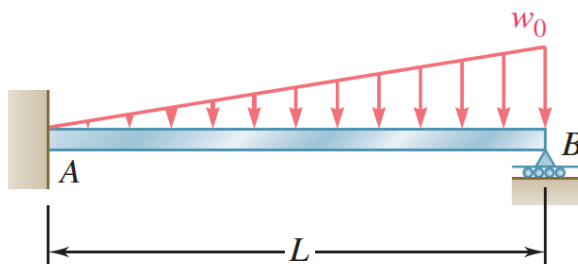


Fig.3

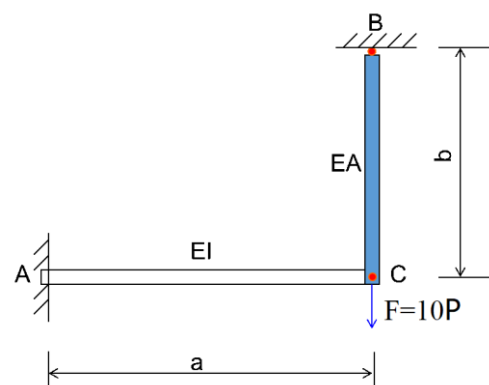


Fig.4