GEC Academy
Decision and Risk Analysis

Instructor: Prof. Paolo Gardoni
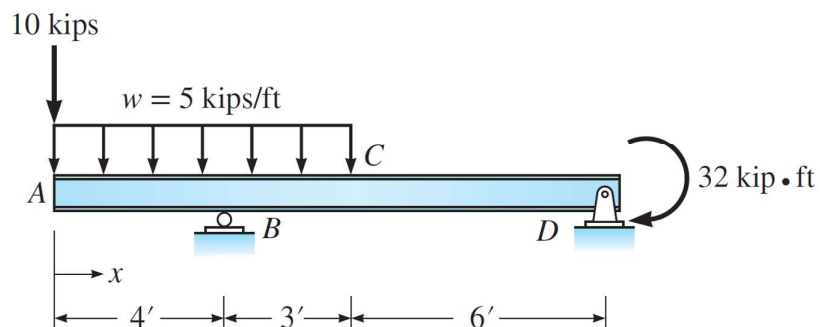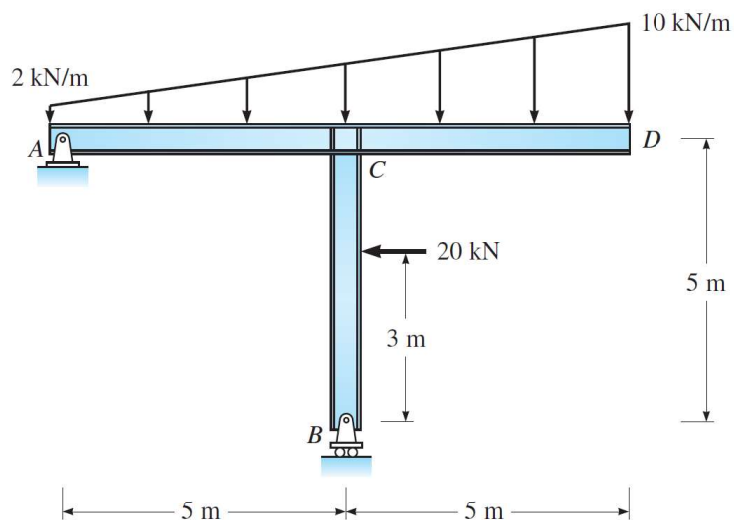Mentor: Dr. Leandro Iannacone

Homework Set 2

Problem 1. Write the equations for shear and moment using the origin shown in the figure. Draw the corresponding diagrams. Evaluate the shear and moment at C.

Problem 2. Draw the shear and moment diagrams for each member of the frame in the figure below. Sketch the deflected shape.

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Problem 3. The load acting on a column that supports a stair and exterior veneer is shown in the figure below. Determine the required moment of inertia for the column such that the maximum lateral deflection of AD does not exceed $1/4$ in, a criterion set by the veneer manufacturer. Use $E = 29,000 \, \text{kips/in}^2$.
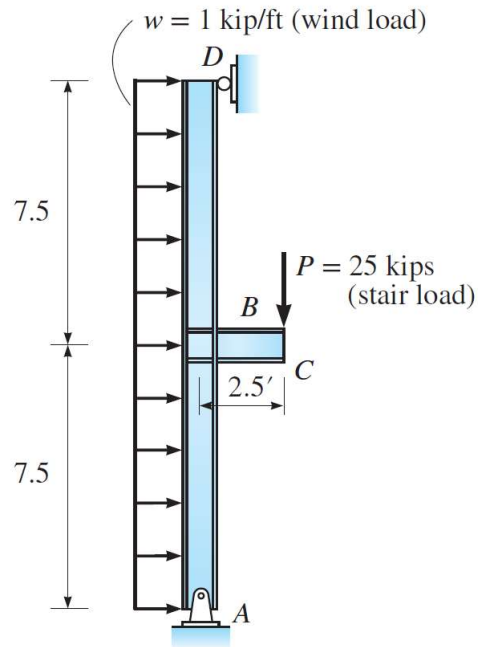
Problem 4. Determine the reactions of the continuous beam in the figure below (EI is constant). Draw the shear and moment diagram, and sketch the deflected shape.