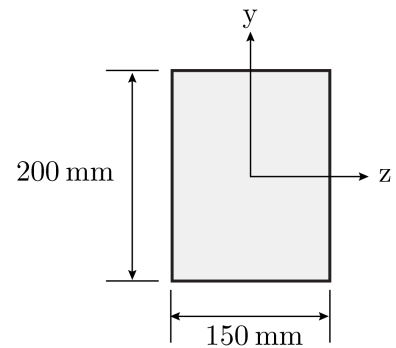
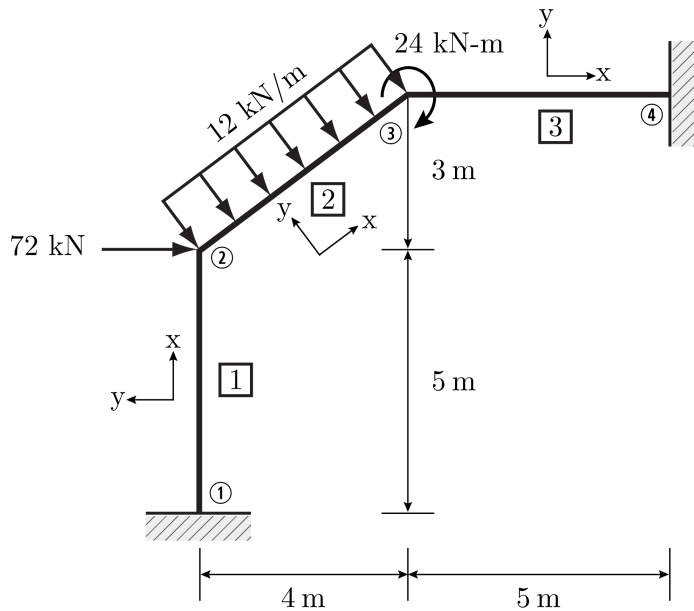


CE 325 Spring 2026 HW#9
 Due Friday, April 24, by 5:00pm ET

1. For the frame shown determine joint displacements/rotations, and support reactions, using the Matrix Displacement Method:

- a. (10 pts) By hand
- b. (10 pts) Using Python
- c. (10 pts) Using SAP2000



$E = 40 \text{ GPa}$ for all members

2. For each member:

- a. (10 pts) Draw axial force, shear force, and moment diagrams.
- b. (5 pts) Calculate the maximum normal stress (σ) and indicate location.
- c. (5 pts) Calculate the maximum shear stress (τ) and indicate location.