Problem 1.
Find the member end-forces for the structure of the figure below using the stiffness method. For all the members, \( I = 150 \text{in}^4 \), \( E = 29,000 \text{ksi} \) and \( A = 43 \text{ in}^2 \).

\[ \text{16 Kips} \]
\[ 15' \]
\[ 10' \]
\[ 10' \]
\[ 20' \]

Hint: Use the 6x6 element stiffness matrices with two different degrees of freedom for the axial displacements of points 4 and 6, and two different degrees of freedom for the rotations of those points.

Problem 2.
Finish the example that I started in class, i.e. for the continuous beam over elastic supports, calculate the deflection and member end forces. Neglect axial deformations.
Given: \( EI = 2 \times 10^7 \text{ kN cm}^2 \) for the flexural members.