Solutions for Homework #1:

Problem #1 Truss 1:

\[ DSI = R + H - 2J = 4 + 13 - (2 \times 8) = 1 \]

It is stable and it has one degree of static indeterminacy

b) \[ DKI = 6 \times 2 = 12 \] (see sketch)

Problem #1 Truss 2:

By analyzing the free body we find that there is no equilibrium under the given load conditions, so the structure is unstable

Problem #2:

a) \[ DSI = 3 + 3 - 2 = 4 \] the structure has 4 degrees of static indeterminacy. Stable

b) \[ DKI: \]

- Considering axial deformations = \((5 \times 3) + 2 = 17\) (see sketch 1)

- Neglecting axial deformations = \(6 + 4 = 10\) (see sketch 2)