

- 4.10. Consider the truss in Fig. P4.10 loaded as shown. Cross-sectional areas in square inches are shown in parentheses. Consider symmetry and model only one-half of the truss shown. Determine displacements and element stresses. Let  $E = 30 \times 10^6$  psi.

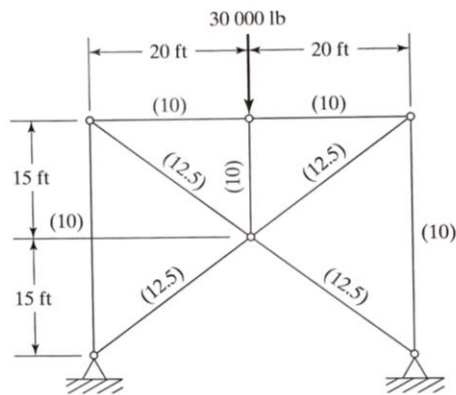


FIGURE P4.10

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- 4.20. In the 11-member truss shown in Fig. P4.20, the horizontal and vertical members have a cross-sectional area of  $200 \text{ mm}^2$ , and all other members have a cross-sectional area of  $90 \text{ mm}^2$ . All members are made of steel. For the loading shown, determine nodal displacements and element stresses using symmetry/antisymmetry. If Euler critical load (buckling load) of a member of length  $l$  is  $\pi^2 EI/l^2$ , check if all members in compression are safe in buckling.

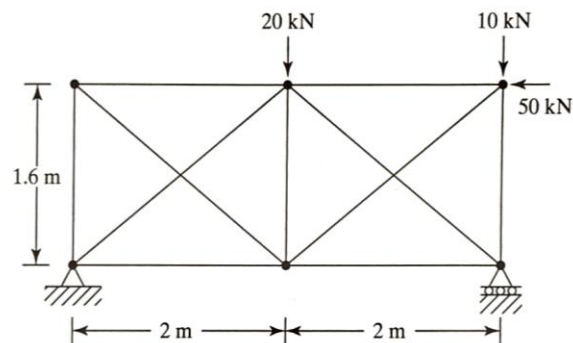


FIGURE P4.20