PROBLEMS

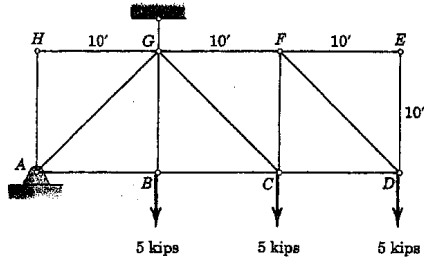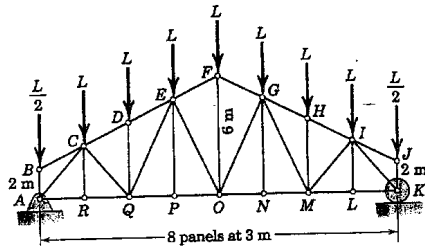### Introductory Problems

4/29 Determine the force in member CG.

Ans. $CG = 14.14$ kips T
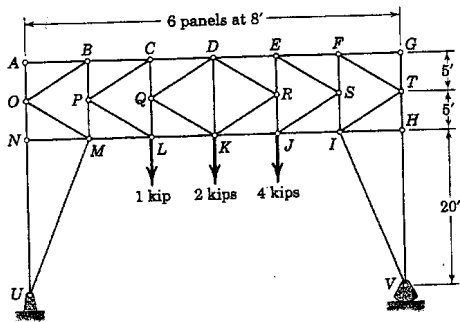

Problem 4/29

4/43 Compute the force in member GM of the loaded truss.

Ans. $GM = 0$

Problem 4/43

▶ **4/49** Determine the force in member DK of the loaded overhead sign truss.
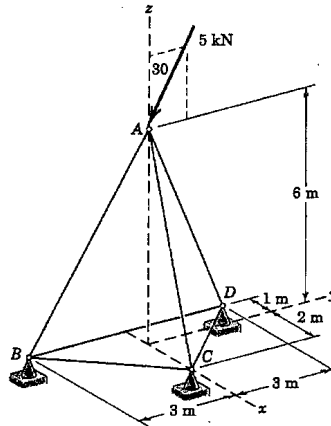
Ans. $DK = 1$ kip T

Problem 4/49

PROBLEMS

(In the following problems, use plus for tension and minus for compression.)

4/53 Determine the forces in members AB, AC, and AD.
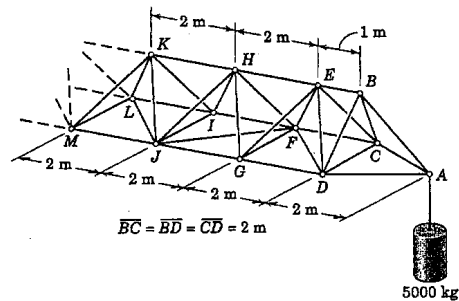
Ans. $AB = -4.46$ kN; $AC = -1.521$ kN
$AD = 1.194$ kN

Problem 4/53

▶ **4/62** A space truss is constructed in the form of a cube with six diagonal members shown. Verify that the truss is internally stable. If the truss is subjected to the compressive forces P applied at F and D along the diagonal FD, determine the forces in members FE and EG.

Ans. $F_{FE} = -P/\sqrt{3}$, $F_{EG} = P/\sqrt{6}$
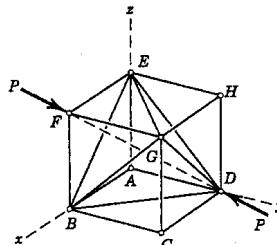
Problem 4/62

▶ **4/63** The lengthy boom of an overhead construction crane, a portion of which is shown, is an example of a periodic structure—one which is composed of repeated and identical structural units. Use the method of sections to find the forces in members FJ and GJ.

Ans. $FJ = 0$, $GJ = -70.8$ kN

Problem 4/63