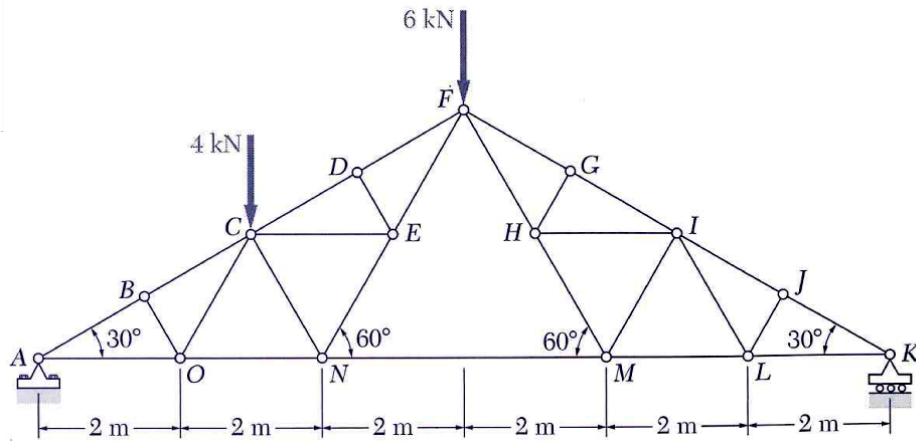
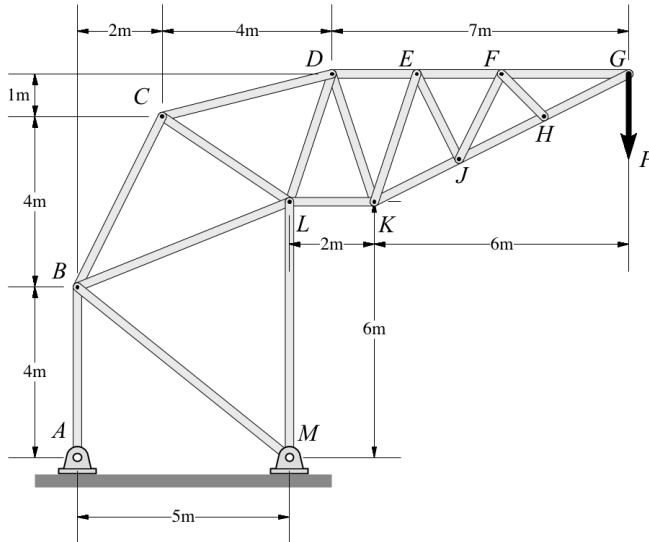


**Example 1** Identify all the zero force members in the truss shown, then draw a FBD of the truss with the zero force members removed.

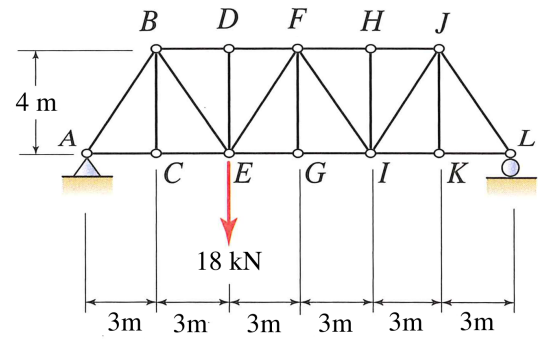


**Example 2** Identify all zero force members in the truss shown, then find the forces in members  $CD$ ,  $DL$ , and  $LK$  using the method of joints, knowing that  $P = 5 \text{ kN}$ . For each member, indicate tension or compression.



### Example 3

Determine the reactions and the forces in all members of the truss shown.



Step 1 Draw FBD of whole truss; solve for reactions at **A** and **L**.

Step 2 Draw FBD of Joint **A**; solve for forces in members **AB** and **AC**.

Step 3 Draw FBD of Joint **C**; solve for forces in members **CB** and **CE**.  
Note this is Special Case  $\gamma$

Step 4 Draw FBD of Joint **B**; solve for forces in members **BE** and **BD**.

- Step 5      Joint **D** is Special Case  $\gamma$ ; determine forces **DF** and **DE**.
- Step 6      Draw FBD of Joint **E**; solve for forces **EF** and **EG**.
- Step 7      Joint **G** is Special Case  $\gamma$ ; determine Forces **GF** and **GI**.
- Step 8      Draw FBD of Joint **F**; solve for forces **FH** and **FI**.
- Step 9      Joint **H** is Special Case  $\gamma$ ; determine forces **HJ** and **HI**.
- Step 10     Draw FBD of Joint **I**; solve for forced **IJ** and **IK**.
- Step 11     Joint **K** is Special Case  $\gamma$ ; determine forces **KJ** and **KL**.
- Step 12     Draw FBD of Joint **J**; determine force **JL**.
- Step 13     Draw FBD of Joint **L**; Verify that it is in equilibrium to check your work.