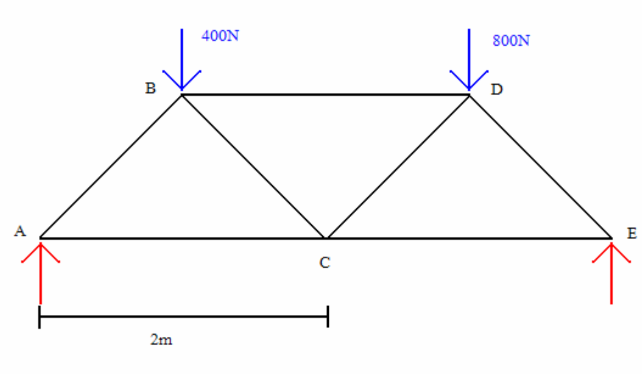
Trusses are designed such that all the weight falls on the nodes (points B and D in the figure below). The pieces that connect the nodes, called members, do not bend as a beam under this force would, and instead only transfer the compression and tension forces between the nodes. Their weight is negligible in comparison with the weight of the load.



(sample truss under stress, all triangles are equilateral)

The truss is at equilibrium, so all forces and torques must sum to zero.

$$\text{Sum of torques} = (1\text{m})*(-400\text{N}) + (3\text{m})*(-800\text{N}) + (4\text{m})*E = 0$$
$$E = 700\text{N}$$

$$\text{Sum of forces} = A_Y + E - 400\text{N} - 800\text{N} = 0$$
$$A_Y = 500\text{N}$$

More information can be gleaned by examining the individual points more closely. For example, at point A:

$$\text{Sum of } F_x = T_{AC} + T_{AB}\cos 60^\circ = 0$$
$$\text{Sum of } F_y = T_{AB}\sin 60^\circ + 500\text{N} = 0$$
$$T_{AB} = -577\text{N} \quad T_{AC} = 289\text{N}$$

The negative tension force indicates compression. We can see the distribution of forces around point B as well:

$$\text{Sum of } F_x = T_{BD} + T_{BC}\cos 60^\circ + 577\cos 60^\circ = 0$$
$$\text{Sum of } F_y = -400\text{N} + 577\sin 60^\circ - T_{BC}\sin 60^\circ = 0$$
$$T_{BC} = 115\text{N} \quad T_{BD} = -346\text{N}$$

This analysis could be done for all the points and clearly shows can see how the forces are spread throughout the truss instead of being concentrated in one location, and therefore helping to dissipate the force of the load.