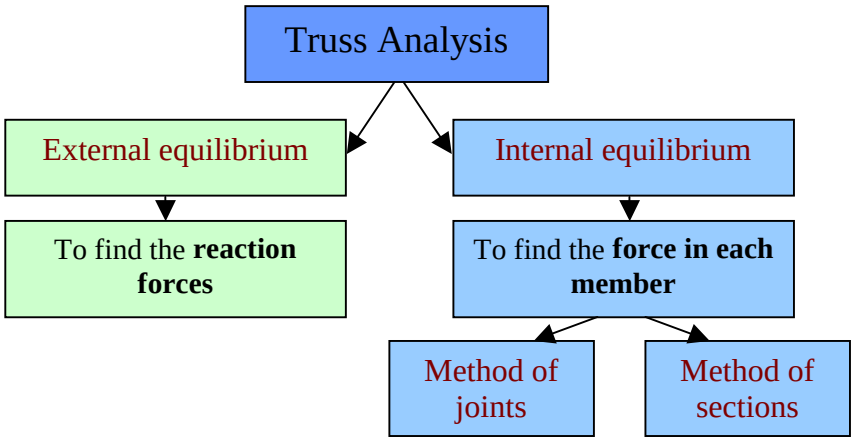
Simple trusses: Part 2

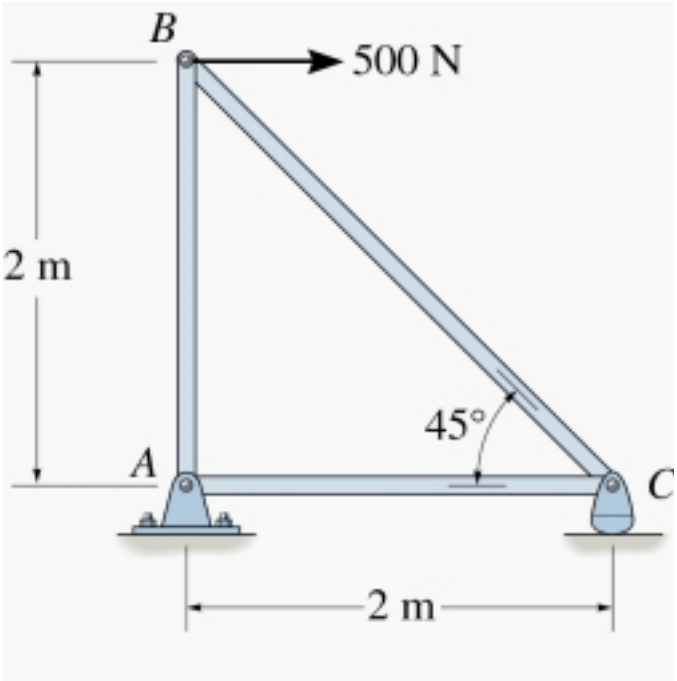
Analysis of trusses (External equilibrium):
There are two types of analysis:



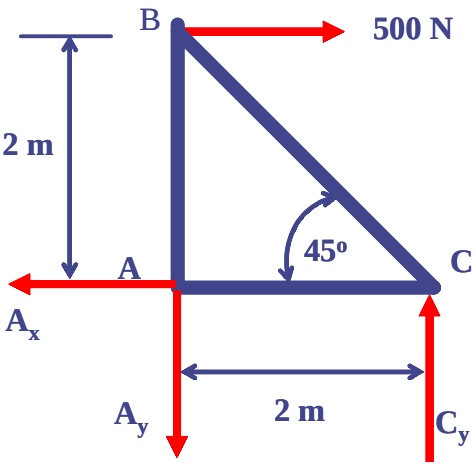
External equilibrium:

1. Draw the FBD of the entire truss,
2. Consider all the forces and moments (known and unknown),
3. Write all the dimensions,
4. Consider the two equilibrium equations (forces and moments).

Example:
Determine the support reactions in the joints of the following truss.



Solution: The FBD is:



$$\sum F_x = 0 \qquad \sum F_y = 0$$
$$500 - A_x = 0 \qquad C_y - A_y = 0$$
$$A_x = 500 \text{ N} \qquad A_y = C_y$$
$$\sum M_A = 0$$
$$-500(2) + C_y(2) = 0$$
$$A_y = C_y = 500 \text{ N}$$