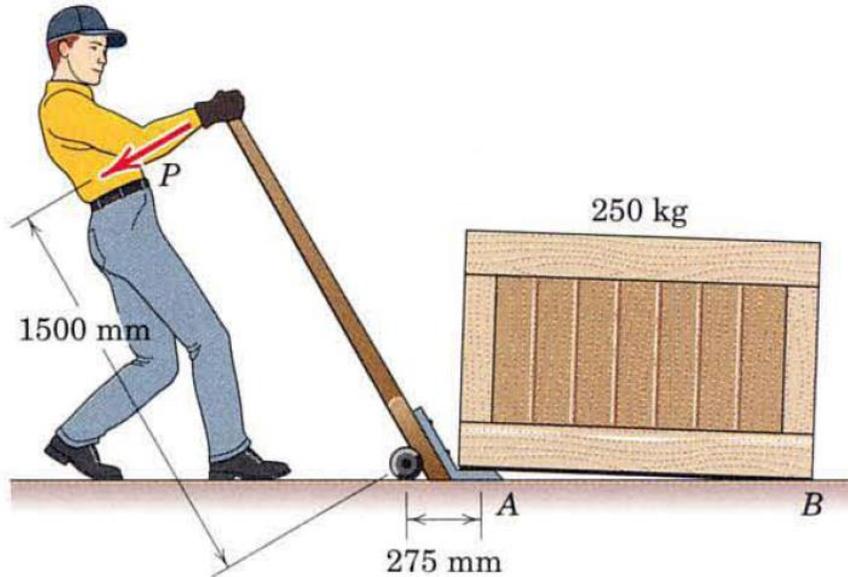
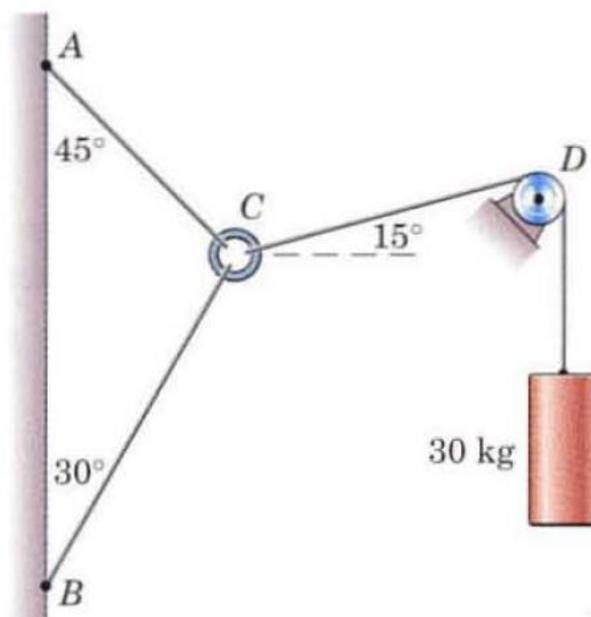


Homework – Equilibrium

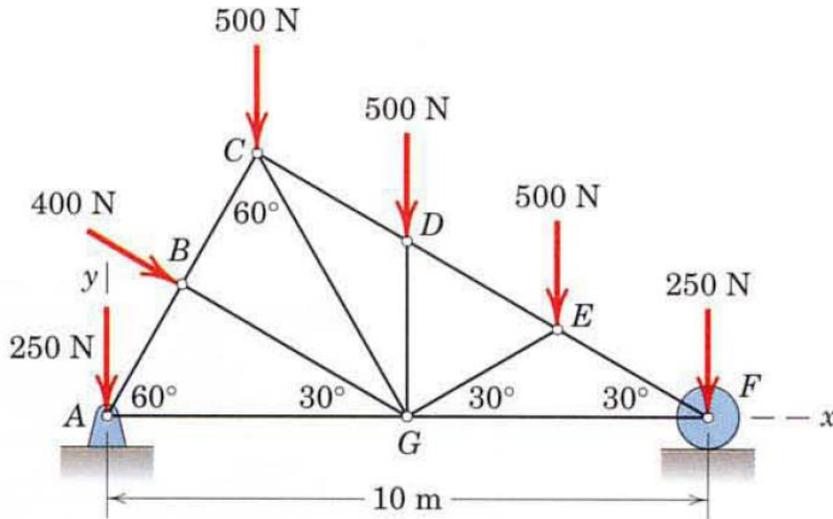
- 3/10** Determine the force magnitude P required to lift one end of the 250-kg crate with the lever dolly as shown. State any assumptions.



- 3/14** Three cables are joined at the junction ring C . Determine the tensions in cables AC and BC caused by the weight of the 30-kg cylinder.



- 3/44** Determine the external reactions at A and F for the roof truss loaded as shown. The vertical loads represent the effect of the supported roofing materials, while the 400-N force represents a wind load.



- 3/52** The rubber-tired tractor shown has a mass of 13.5 Mg with center of mass at G and is used for pushing or pulling heavy loads. Determine the load P which the tractor can pull at a constant speed of 5 km/h up the 15-percent grade if the driving force exerted by the ground on each of its four wheels is 80 percent of the normal force under that wheel. Also find the total normal reaction N_B under the rear pair of wheels at B .

