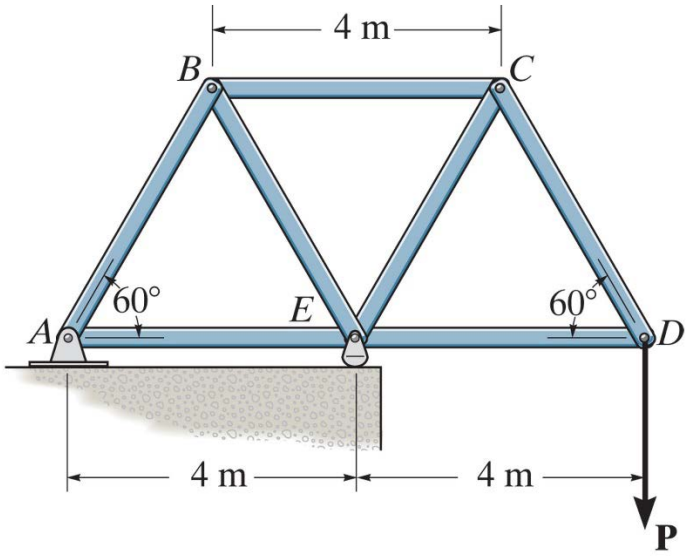
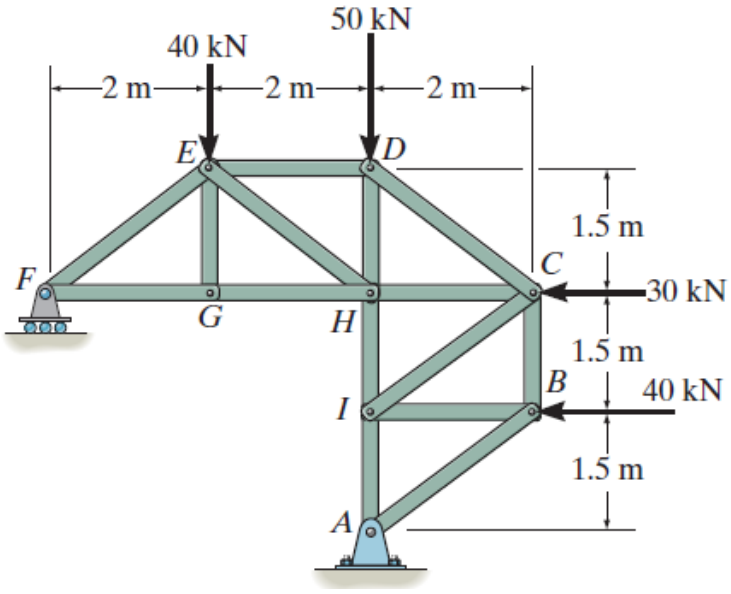
If the maximum force that any member can support is 8 kN in tension and 6 kN in compression, determine the maximum force **P** that can be supported at joint *D*.

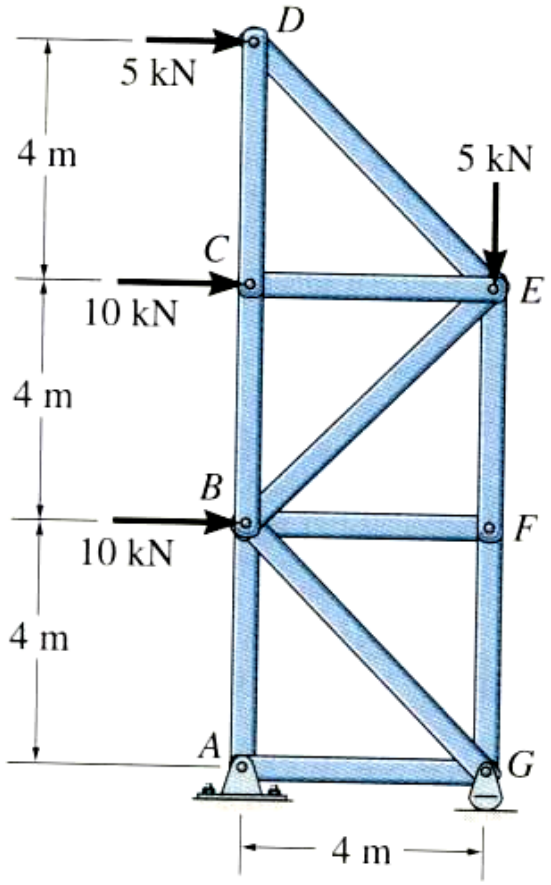




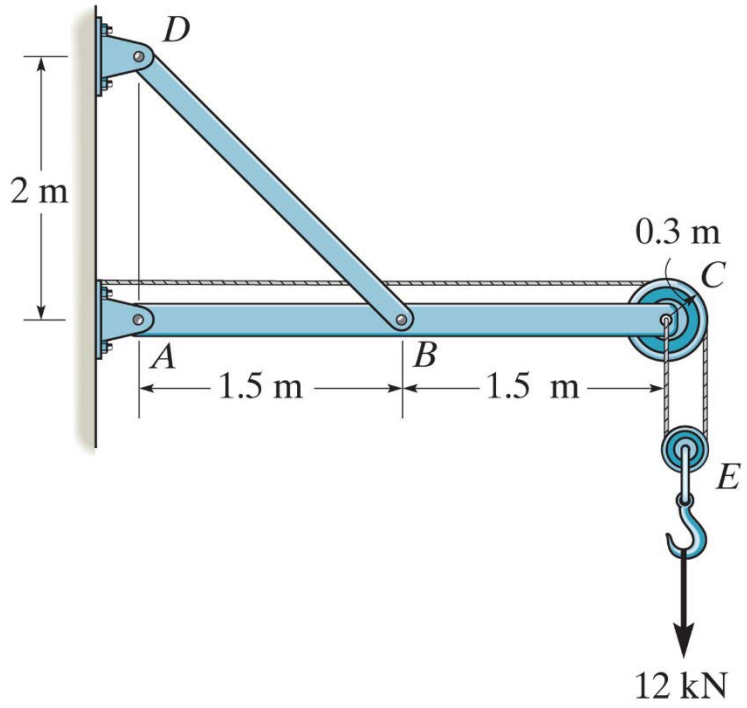
Given:Loads as shown on the truss.

Find: The forces in members ED, EH, and GH.

Determine the force in members BC, BE, and EF from the truss shown below.



Determine the horizontal and vertical components of force at pins *A* and *D*.



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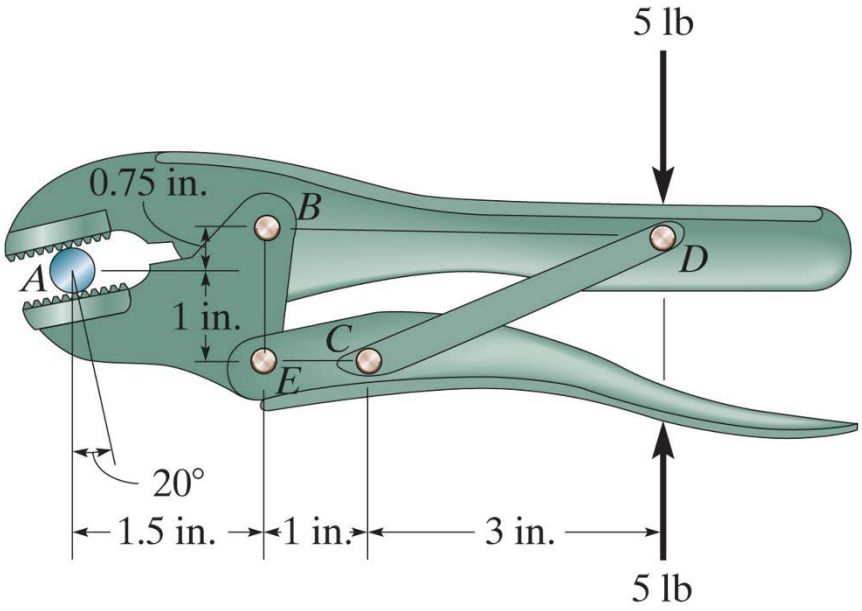
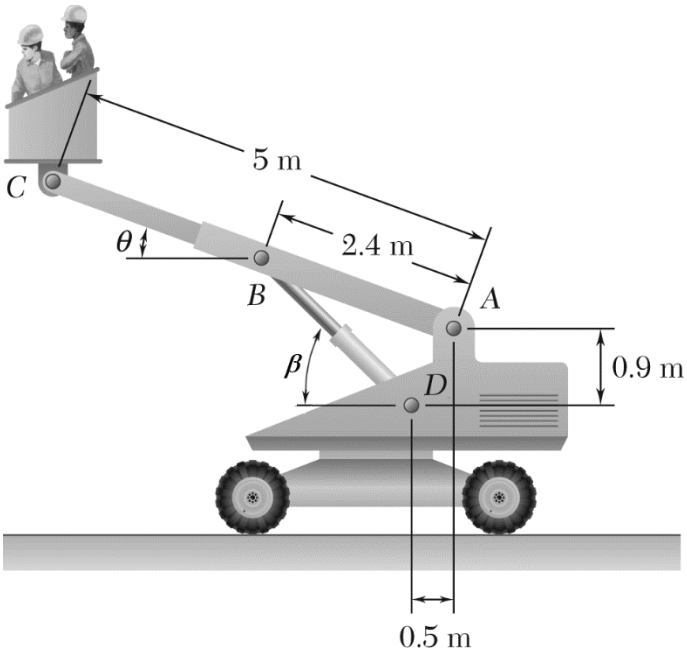
A 5-lb force is applied to the handles of the vise grip. Determine the compressive force developed on the smooth bolt shank *A* at the jaws.



The telescoping arm *ABC* is used to provide an elevated platform for construction workers. The combined mass of workers and platform is 200 kg and a centre of gravity is located directly above *C*. For the position when $\theta = 20°$ and $\beta = 44.43°$, find

a) The force exerted at B by the single hydraulic cylinder BD

b) The force exerted on the supporting carriage at A



The pumping unit is used to recover oil. When the walking beam *ABC* is horizontal, the force acting in the wireline at the well head is 250 lb. Determine the torque **M** which must be exerted by the motor in order to overcome this load. The horse-head *C* weighs 60 lb and has a center of gravity at G_C. The walking beam *ABC* has a weight of 130 lb and a center of gravity at G_B, and the counterweight has a weight of 200 lb and a center of gravity at G_W. The pitman, *D*, is pin connected at its ends and has negligible weight.