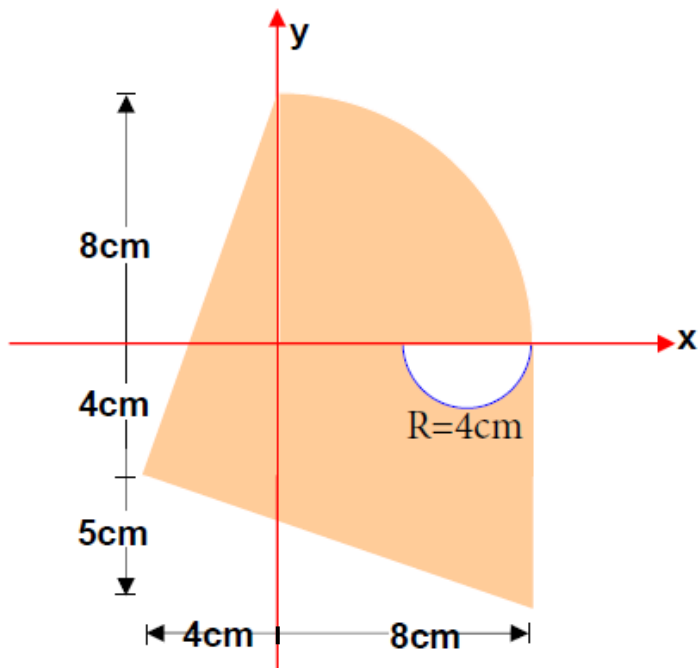


**2016/2017 SPRING SEMESTER
INS 128 ENGINEERING MECHANICS COURSE
ASSIGNMENT**

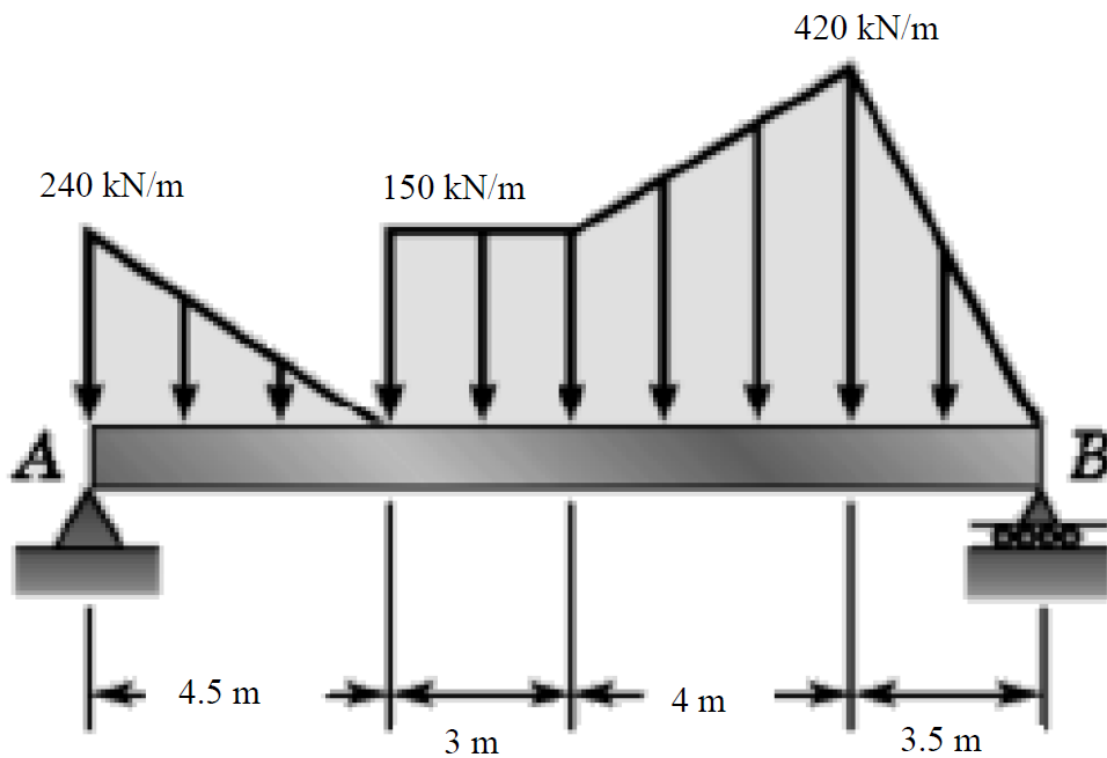
Due date: 24/05/2017

(Delivery to Res. Asst. Tolga ARSLAN)

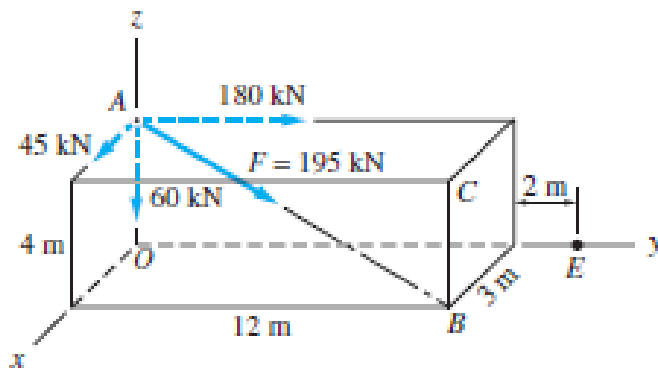
1) Determine the center of gravity of the plane area shown in the figure.



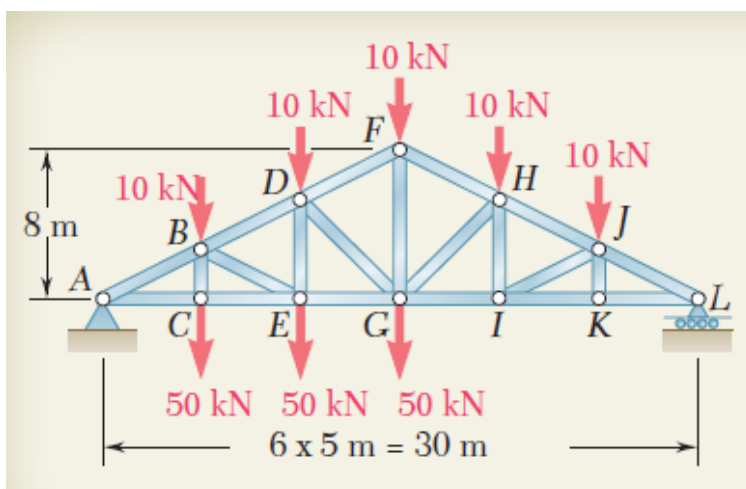
2) Determine the reaction forces at the beam supports for the given loading.



3) Determine the moment of F about the axis CE and express the moment in vector form.



4) Compute the forces in all members of the truss by the method of joints.



5) A 450 kg load hangs from the corner C of a rigid piece of pipe $ABCD$ which has been bent as shown. The pipe is supported by the ball-and-socket joints A and D , which are fastened, respectively, to the floor and to a vertical wall, and by a cable attached at the midpoint E of the portion BC of the pipe and at a point G on the wall. Determine (a) where G should be located if the tension in the cable is to be minimum, (b) the corresponding minimum value of the tension.

