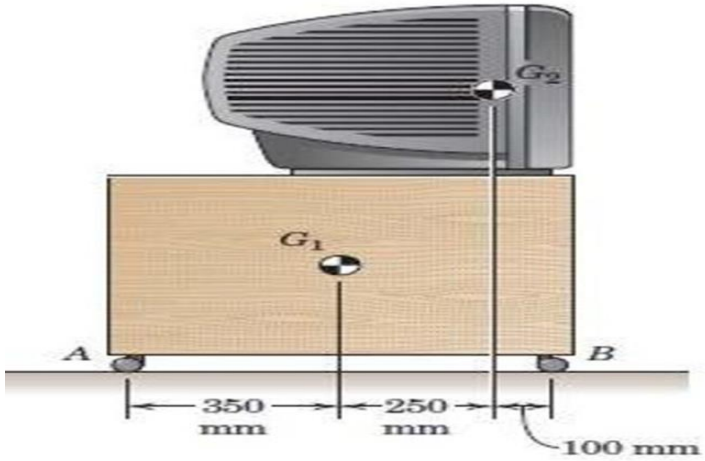
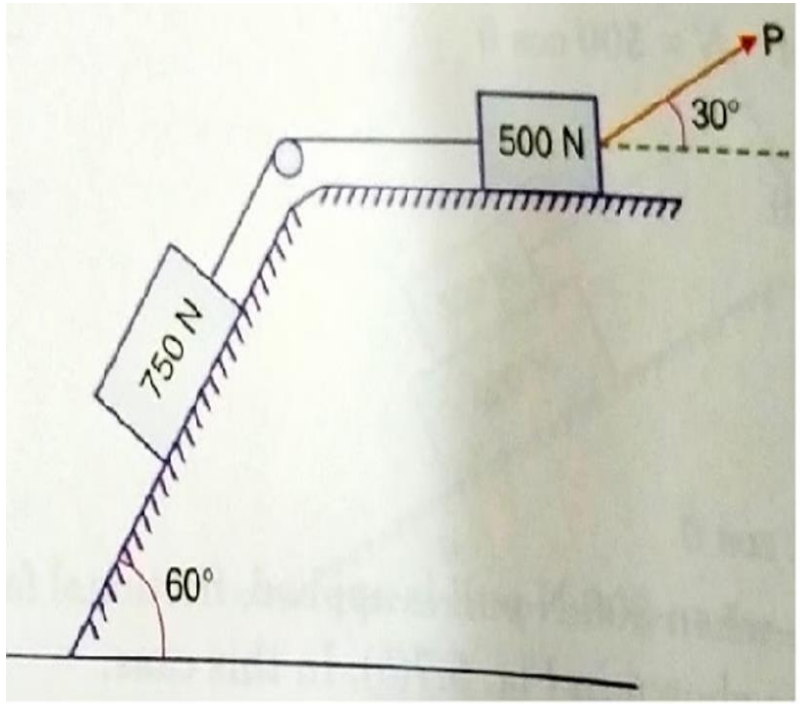
In the side view of a 687 N television resting on a 235 N cabinet, the mass centers are labeled G1 and G2. Determine the force reactions at A and B. (Note that the mass center of most televisions is located well forward because of the heavy nature of the front portion of picture tubes.) *

a. Ra= 217.25 N, Rb= 685.5 N
b. Ra= 213 N, Rb= 697 N
c. Ra= 215.82 N, Rb= 706. N32
d. Ra= 214.52 N, Rb= 704.45 N
e. Ra= 210 N, Rb= 701 N



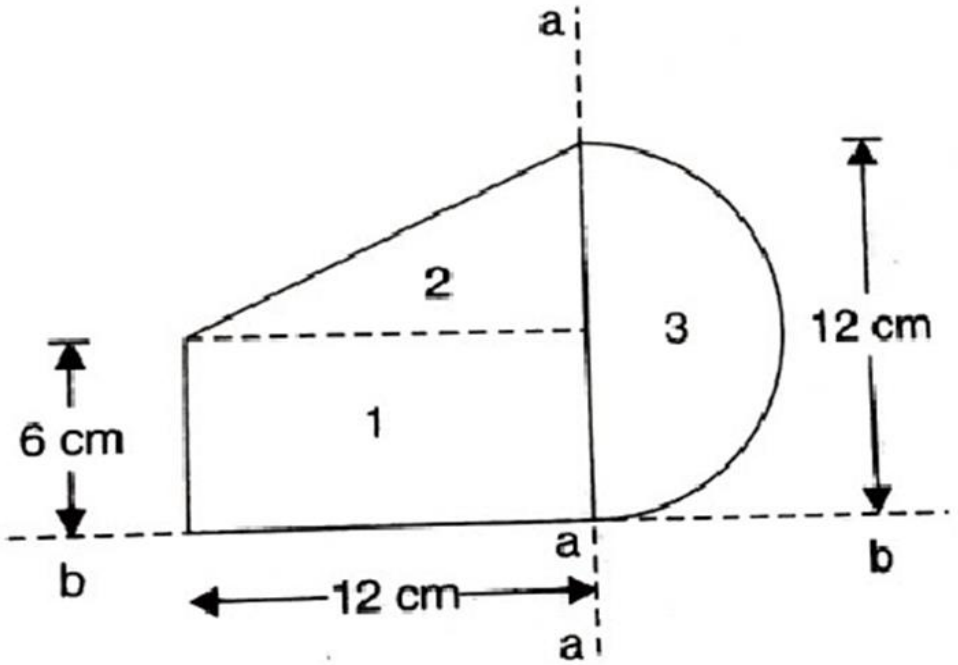
Q.2 What is the value of P in the system shown in Fig. to cause the motion of 500N block to the right side? Assume the pulley is smooth and the coefficient of friction between other contact surfaces is 0.20. *

a. 852.50 N
b. 853.52 N
c. 854.25 N
d. 851 N
e. None of the above
f. 845.32 N

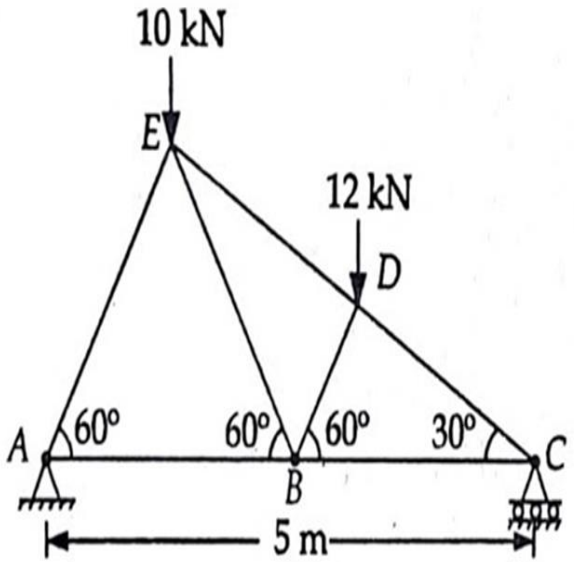


Q.3 Determine the centroid of area shown in Fig. by taking moment of area about the given a-a-axis and b-b-axis. *

a. Xc= -2.625 cm, Yc= 3.40 cm
b. Xc= -2.50 cm, Yc= 3.40 cm
c. Xc= -2.225 cm, Yc= 3.35 cm
d. Xc= 2.35 cm, Yc= -3.10 cm
e. Xc= 2.65 cm, Yc= -3.35 cm
f. None of the above



Q.4 The forces in all the members of the truss loaded and supported as shown in the fig. are as follows: *



a. SAE= 13.5kN, SAB= 13.5kN,SBC= 17.32kN, SCD= 22kN, SED= 13.65kN, SEB= 10.4kN, SBD= 10.4kN
b. SAE= 13.5kN, SAB= 13.5kN,SBC= 17.32kN, SCD= 20kN, SED= 11.99kN, SEB= 10.4kN, SBD= 1.4kN
c. SAE= 13.5kN, SAB= 6.92kN,SBC= 17.32kN, SCD= 20kN, SED= 13.99kN, SEB= 10.4kN, SBD= 10.4kN
d. SAE= 13.5kN, SAB= 13.5kN,SBC= 17.32kN, SCD= 11.3kN, SED= 12.80kN, SEB= 10.4kN, SBD= 10.4kN
e. SAE= 13.5kN, SAB= 6.95kN, SBC= 17.32kN, SCD= 22kN, SED= 13.85kN, SEB= 10.4kN, SBD= 10.4kN
f. None of the above