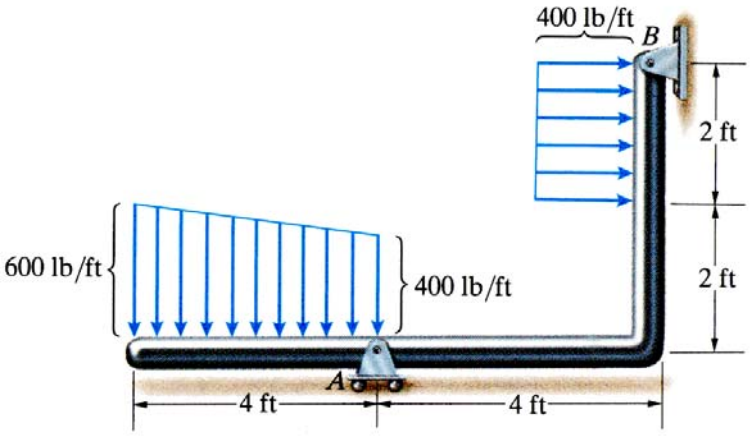
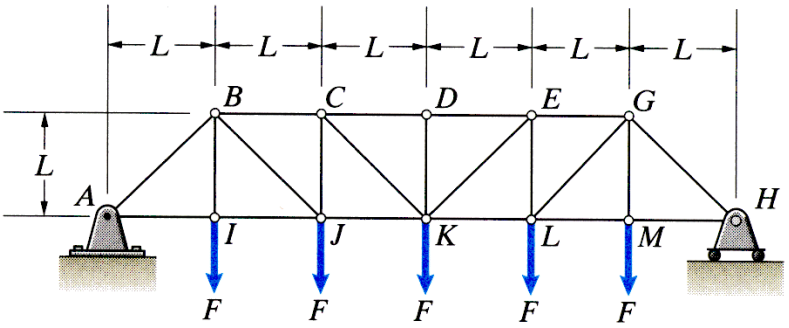
IDE 50 S07 – Exam 4 **Name:** _____

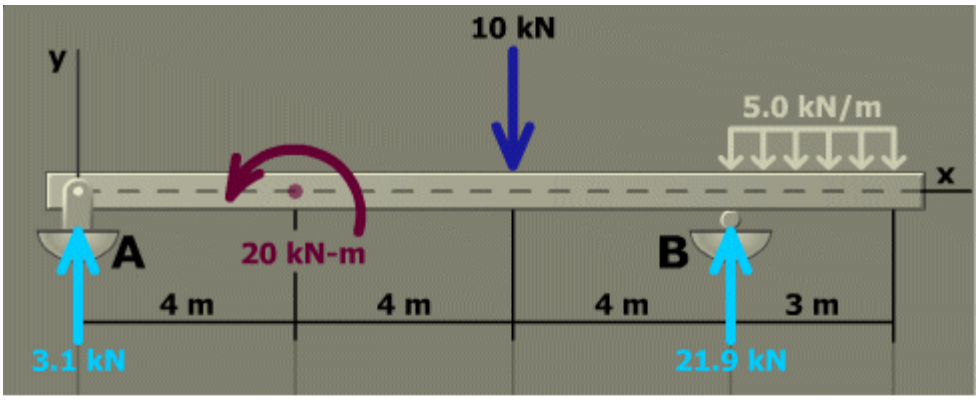
1. Determine the reactions at *A* and *B*.



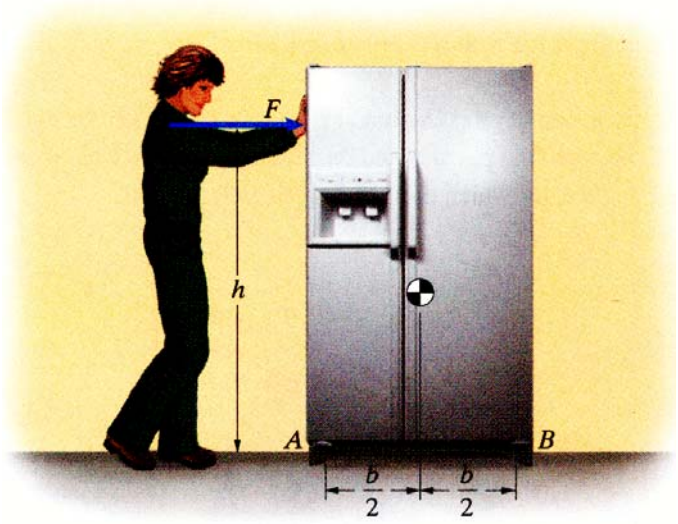
2. The Pratt bridge truss supports five forces (F = 300 kN). The dimension L = 8 m. Determine the force in members *BC*, *BI*, and *BJ*, and state whether they are in tension or compression.



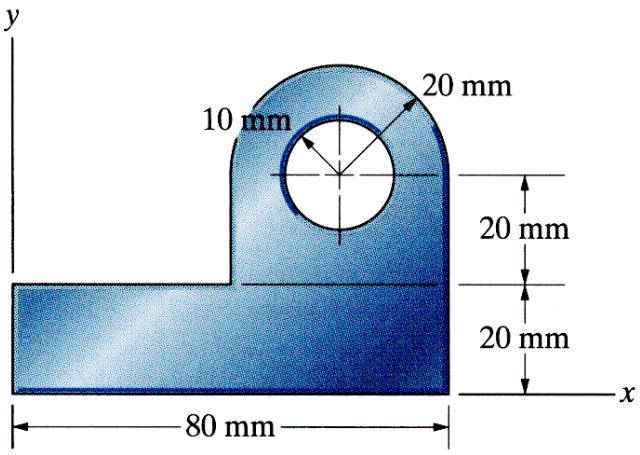
3. Draw the shear force and bending moment diagrams, and label all peak values. The ground reactions are shown.



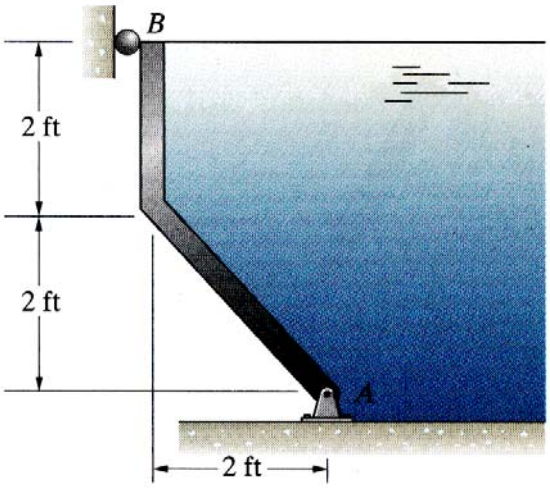
4. The refrigerator weights 220 lb. It is supported at *A* and *B*. The coefficient of static friction between the supports and the floor is $\mu_s = 0.2$. The distance $h = 60$ in and the dimension $b = 30$ in. Determine the force *F* required to tip the refrigerator and the force *F* to slip the refrigerator. Does it tip or slip first?



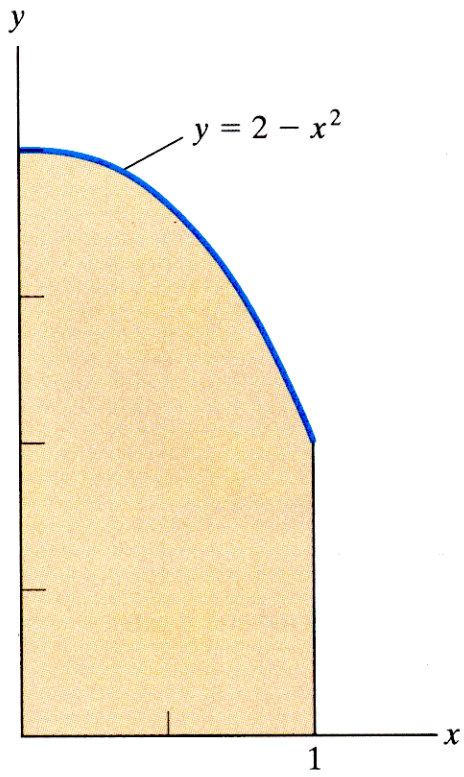
5. Determine y-bar.



6. The width of the dam (dimension into the page) is 8 ft. The weight density of the water is $\gamma = 62.4$ lb/ft3. If you neglect the weight of the dam, what is the reaction at B?



7. Determine I_x.



8. Determine I_x and I_y.