Welcome to Jamboard. Please follow these steps carefully.

1) Identify who the leader is in your group; today it is the person with the **second** ~~last~~ birthday in the year.

2) The leader should make a copy of the Jamboard using the three dots in the upper right.

3) Once the new copy is created, close this copy.

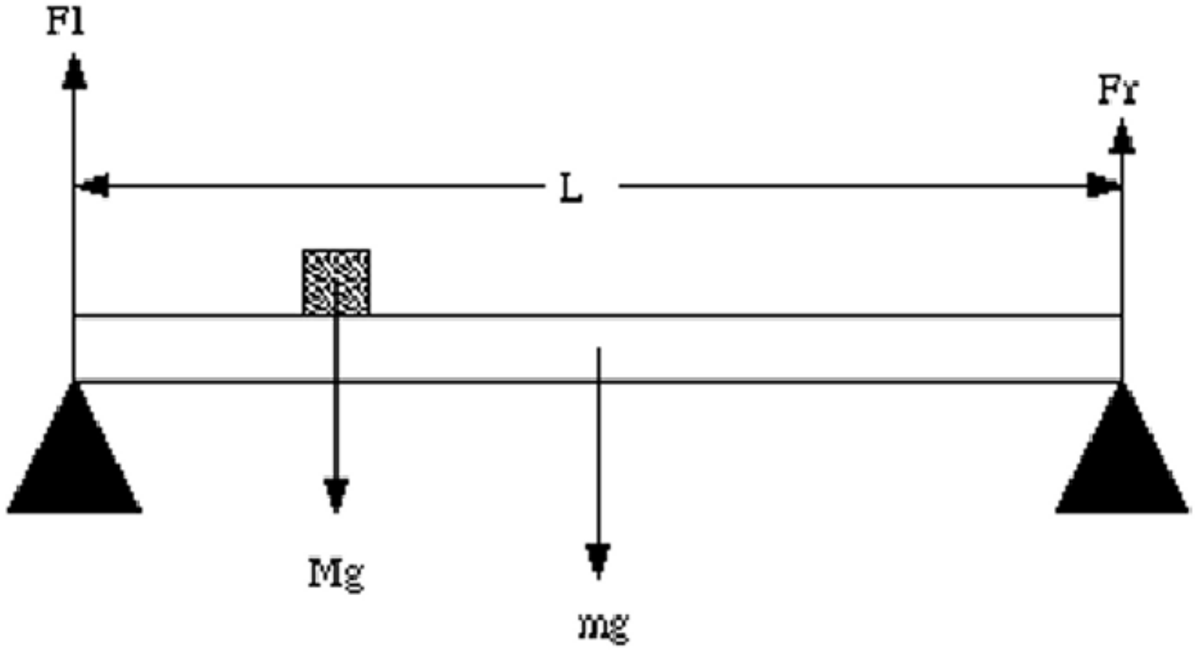
4) Click "Share", click on "Get Link", then click on "Restricted" and select "Anyone with link", then click on "Viewer" and change to "Editor". Finally click "copy link", and paste the link into the Zoom chat box. Also email that link to me at wongalex@smccd.edu, along with your Breakout Room Number

5) Everyone else should open that link! You are now ready to start- go to

Static Equilibrium Problems

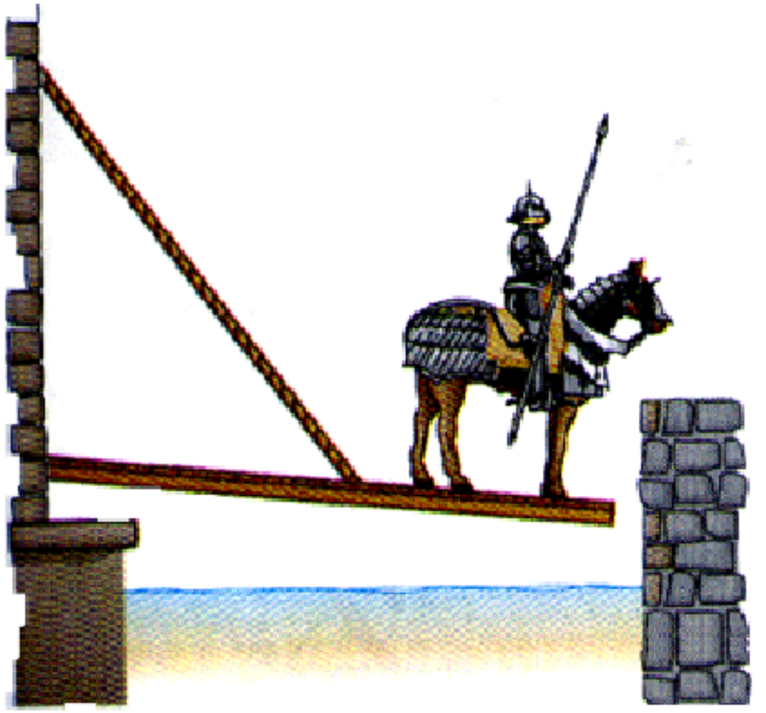
1. **Organize and Plan**
   - A. **Draw a clear diagram that includes all forces and indicates where they are applied on the object.**
     - i. **Weight forces should be drawn so they act through the center of mass of the object.**
   - B. **Choose, and indicate on your diagram, an axis of rotation, usually at the location of an unknown force (since the torque caused by the unknown force will be zero).**
2. **Solve**
   - A. **Write expressions for the net force in the x and y directions, and the net torque, and set all expressions equal to zero.**
   - B. **Use algebra to solve for what you don't know.**

A uniform beam of length L = 2 m whose mass is m = 2 kg, rest with its ends on two digital scales (see Figure 13.2). A block whose mass is M=3 kg rests on the beam, its center one-fourth away from the beam's left end. What do the scales read ?



Start by choosing an axis of rotation! Follow the steps!

Sir Lost-a-Lot dons his armor and sets out from the castle on his trusty steed in his quest to rescue fair damsels from... he's not quite sure what, but he'll figure it out. Unfortunately his aide lowered the drawbridge too far and finally stopped it 20.0 degrees below the horizontal. Sir Lost and his steed stop when their combined center of mass is 1.0 m from the end of the bridge. The bridge is 8.0 m long and has a mass of 2,000 kg; the lift cable is attached to the bridge 5.0 m from the castle end and makes an angle of 45 degrees with the bridge. Sir Lost's mass combined with his armor and steed is 1,000 kg.



(a) Determine the tension in the cable and

(b) Determine the horizontal and vertical force components acting on the bridge at the castle end.

24P. A 15-kg weight is being lifted by the pulley system shown in Fig. 29. The upper arm is vertical, whereas the forearm makes an angle of 30° with the horizontal. What forces are being exerted on the forearm by the triceps muscle and by the upper-arm bone (the humerus)? The forearm and hand together have a mass of 2.0 kg with a center of mass 15 cm (measured along the arm) from the point where the two bones are in contact. The triceps muscle pulls vertically upward at a point 2.5 cm behind the contact point.