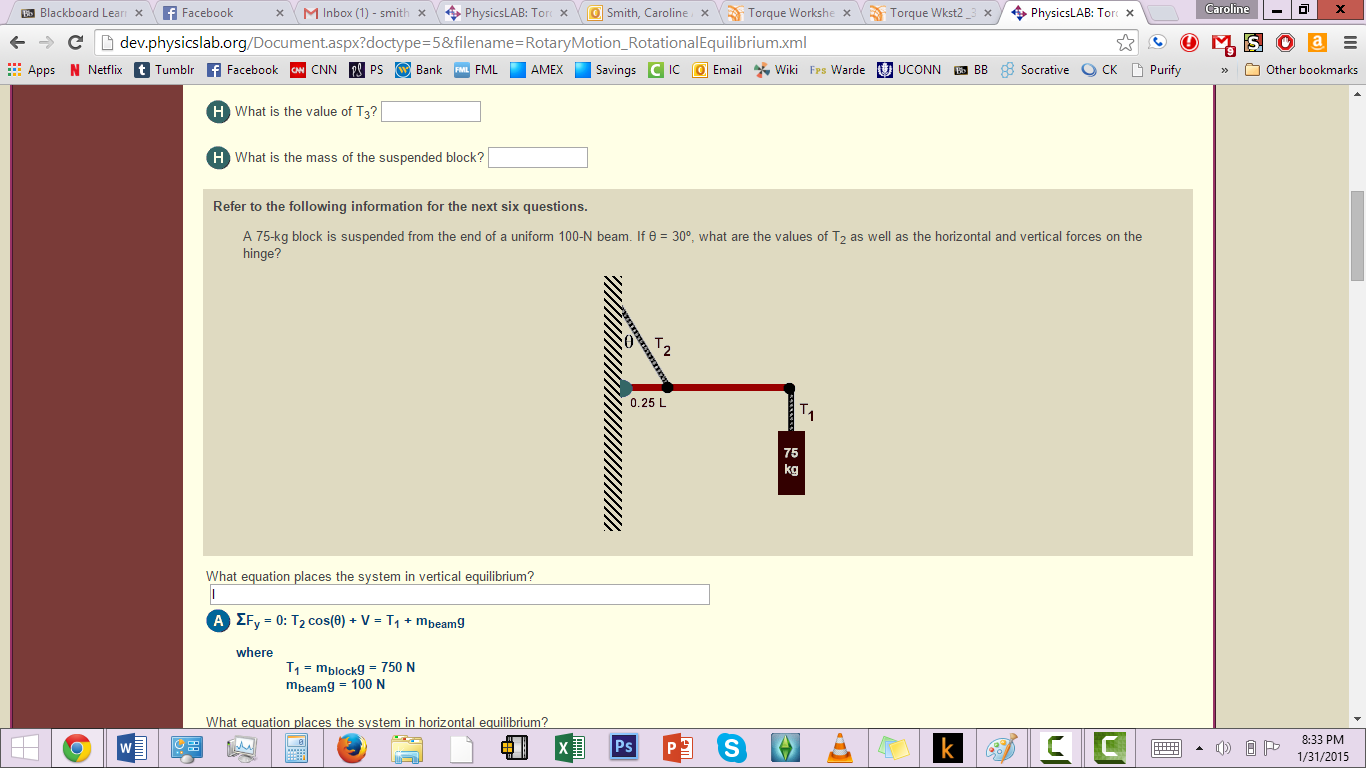
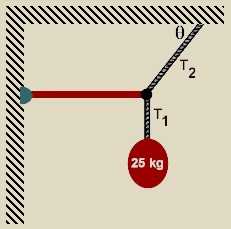
1. A 70kg boy and a 58kg girl sit on a stationary 120kg porch swing that is 2m long. The swing is supported by a chain at either side. Find the tension in the two chains if the boy sits in 0.75 meters from the left (he wants to cuddle) and the girl sits 0.3 meters from the right (she does not).
2. A 2400 kg bridge with a length of 24.0 m is supported by a pillar on opposite ends. If a car with a mass of 960 kg is parked 5.0 m from one end, what is the force on each pillar?
3. A truck (mass 5000kg) is parked right in the middle of the same bridge. Find the new force exerted by each pillar.
4. A 75-kg block is suspended from the end of a uniform 100-N beam (see figure).  
    If θ = 30º, what are the values of T2 as well as the horizontal and vertical   
   forces on the hinge?

1. A lantern with a mass of 15kg is attached to a pole 1.5m long. The pole is attached at an angle of 45° from the side of a house and has a uniform mass of 60kg. Find the torque exerted by the hinge at the corner of the house.
2. A 25-kg bag is suspended from the end of a uniform 100-N beam. If θ = 30º, what are the values of T2 as well as the horizontal and vertical forces on the hinge?