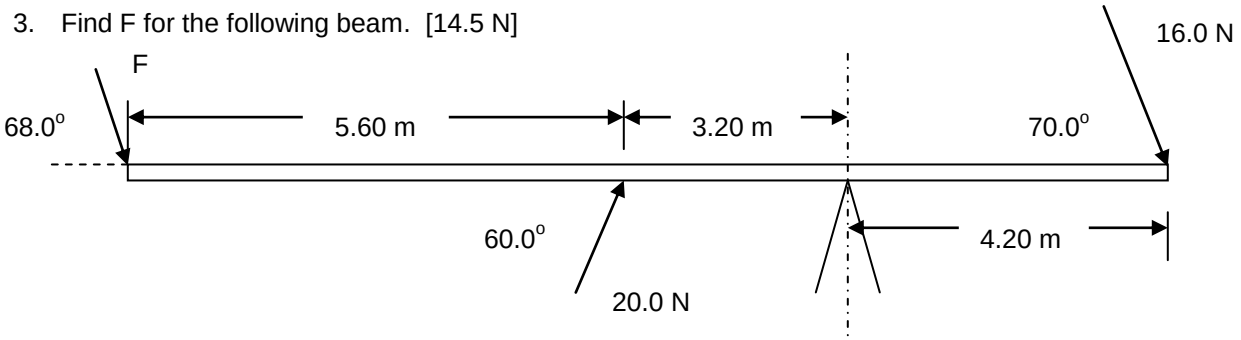
Rotational Equilibrium Worksheet

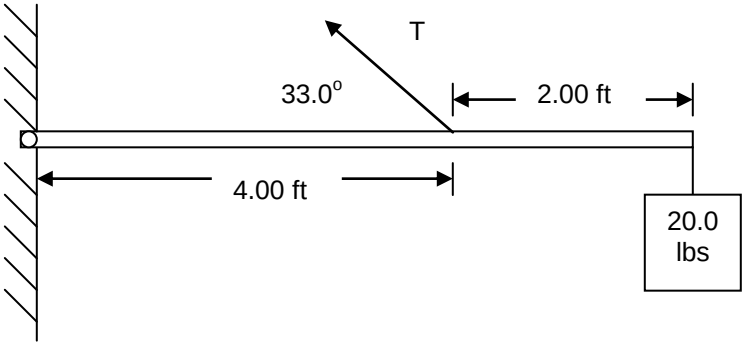
1. Mabel and Maude are trying to make their see-saw balance. Mabel weighs 400.0 N and she sits 2.00 m from the fulcrum. Where should 450.0 N Maude sit to balance the see-saw? [1.78 m]

2. Orin and Ann, two paramedics, rush a 60.0 kg man from the scene of an accident to a waiting ambulance, carrying him on a uniform 3.00 kg stretcher held by the ends. The stretcher is 2.60 m long and the man's center of mass is 1.00 m from Ann. How much force must Orin and Ann exert to keep the man horizontal? [Orin = 241 N; Ann = 376 N]

3. Find F for the following beam. [14.5 N]



4. A 25.0-pound beam is supported by a string as shown. What is the tension? (Recall that the weight is taken at the center of the beam) [89.5 lb]



5. Find T if this beam has a length of 6.0 meters and a weight of 320 N. [T=272 N]