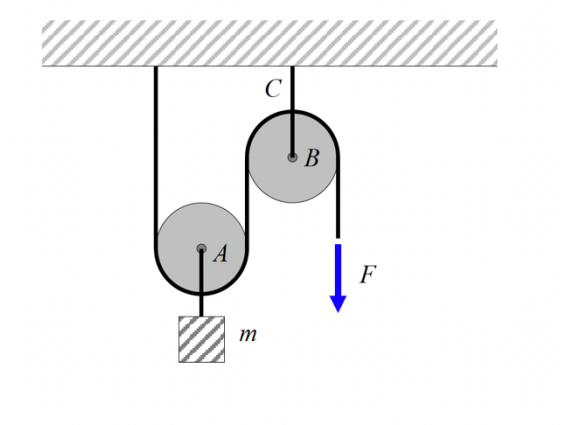
Name_____

Problem 1 (15 points). The system of cables and pulleys shown below supports an object of mass m = 10 kg. Determine the following:

a) The force ***F*** necessary to keep the system in equilibrium. (*10 points*)

b) The force in cable *BC*, assuming the system is in equilibrium. (*5 points*)



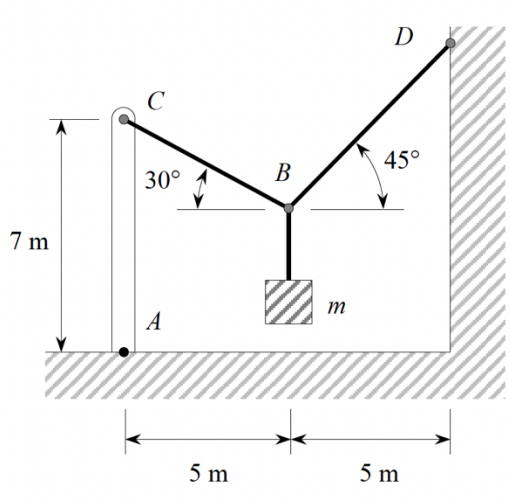
Name_____

Problem 2 (20 points). The system of cables shown below is in equilibrium and supports an object *m* with a weight of 100 N. AC is a rod that is fixed to the ground. Determine the following:

a) The magnitude of the forces in cables *BC* and *BD*. (*10 points*)

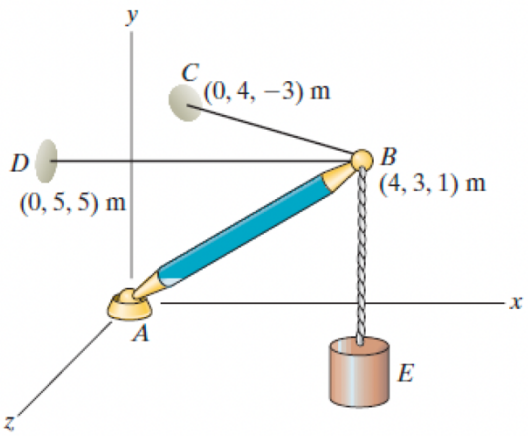
b) The moment of the force exerted by cable *BC* about point *A*. (*5 points*)

c) The moment of the forces exerted by cables *BC* and *BD* about point *B*. (*5 points*)



Name_____

Problem 3 (20 points). If the mass of the suspended object E is 75 kg, determine the moment about point A of the force that cable BD exerts on the 'ball' at point B.



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