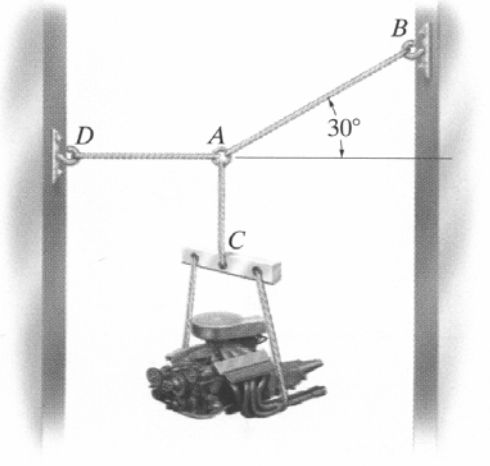


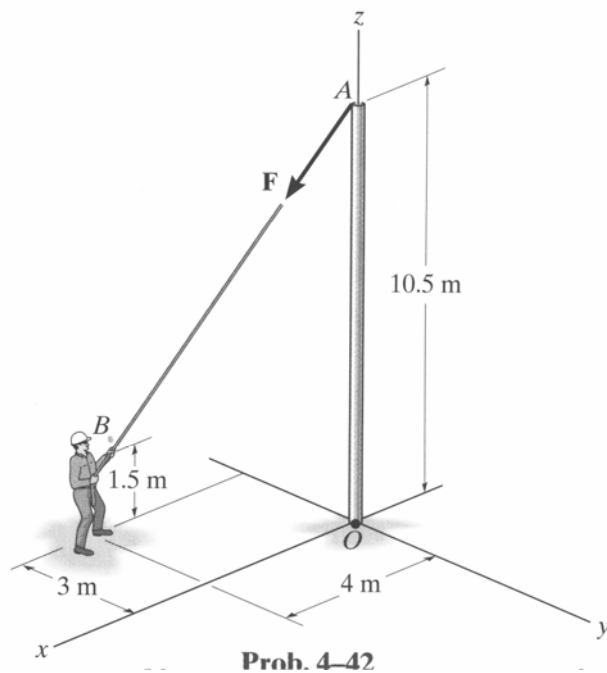
AEM 201: Exam 1

NAME: _____ CWID: _____

1. (30 points) Determine the tension in cables AB and AD for equilibrium of the 250-kg (note that this is a mass, not a weight) engine.



2. (40 points) The man pulls on the rope with a force of $F = 20 \text{ N}$.
- (a) Determine the moment that this force exerts about the base of the pole at O .
 - (b) Determine θ_x , θ_y , and θ_z for the force F .



3. (30 points) The beam is subjected to a system of coplanar forces (everything is in the xy -plane). Determine the magnitude, direction and location (measured from E) on the beam of a resultant force which is equivalent to the given system of forces.

