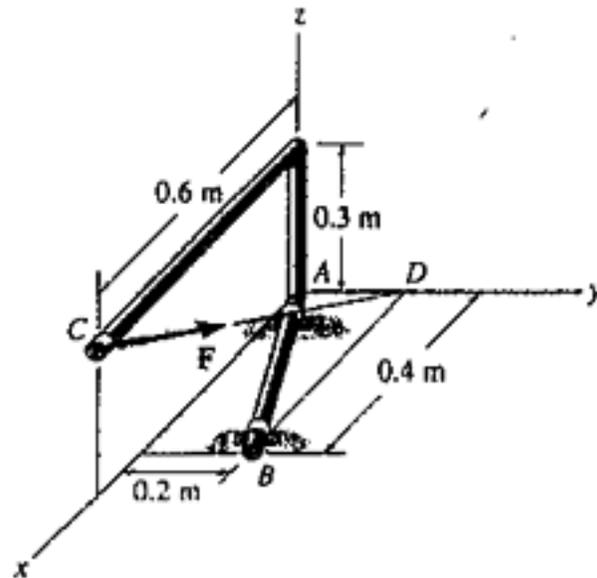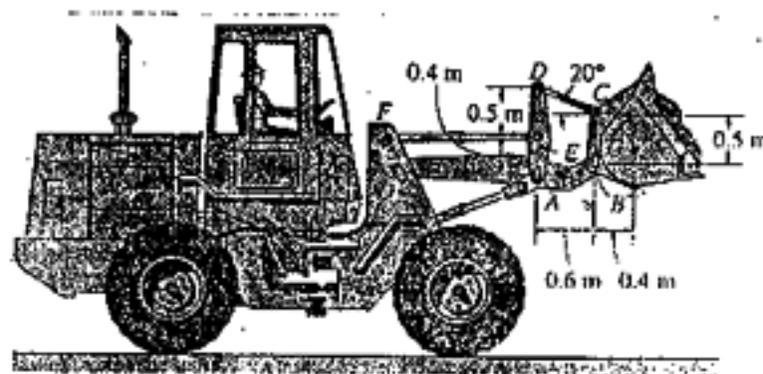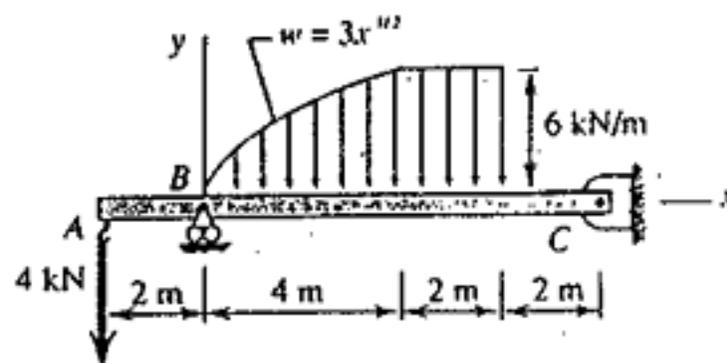1. (25pts) The rod shown is supported by two brackets at A and B. Determine the moment about the AB axis produced by **F** which magnitude is 700 N.

2. (25pts) The shovel of the tractor supports the 400-kg load which has a center of mass G shown. Determine the reaction at pin A and the force in hydraulic cylinder EF. All labeled points are pin connections. The mechanism is the same on both sides and supports the load equally on both sides.

3. (25pts) Determine the reactions at the supports shown.

4. (25pts) locate the centroid of the volume of the irregular pyramid shown.