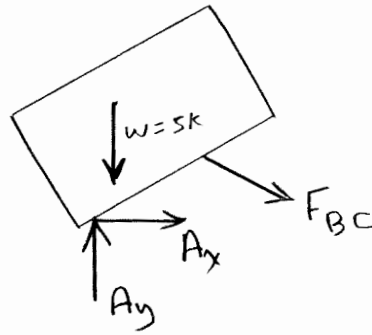


Written Quiz # 5

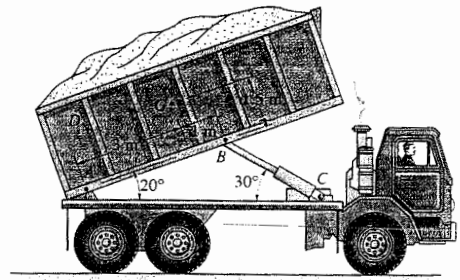
Name: key

ID#: _____

1) [3 points]



Draw the free-body diagram of the dumpster *D* of the truck, which has a weight of 5000 lb and a center of gravity at *G*. It is supported by a pin at *A* and a pin-connected hydraulic cylinder *BC* (short link).



2) [7 points]

Draw the complete free body diagram.

$$W_1 = 200(4+3) = 1400 \text{ N}$$

$$W_2 = \frac{1}{2}(3)(400 - 200) = 300 \text{ N}$$

$$d_1 = \frac{4+3}{2} = 3.5 \text{ m}$$

$$d_2 = 4 + \frac{2}{3}(3) = 6 \text{ m}$$

