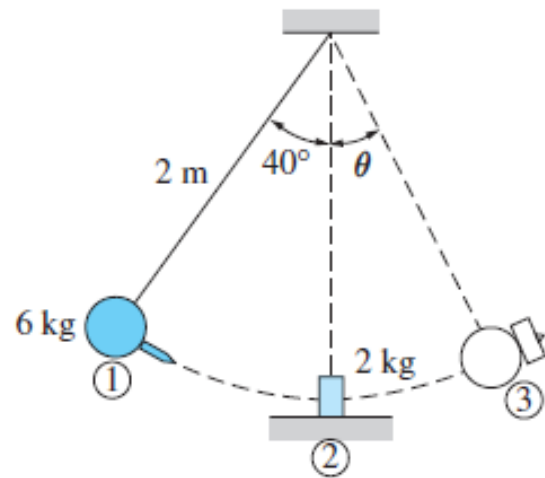


1) The 6 kg spiked pendulum is released from rest in position 1. When the pendulum reaches position 2, the spike spears the 2 kg parcel and carries it to position 3 before stopping momentarily. Determine the angle θ in position 3.

Draw necessary Free Body Diagram(s) and clearly label your coordinate system(s).



30 marks