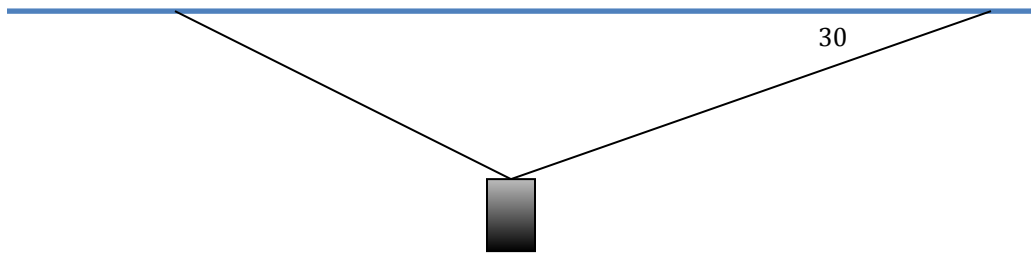# Force of Tension

Practice

1. Will an 8.5-kg object accelerate if it is pulled by two ropes: Rope 1 pulls 55N [R and Rope 2 pulls 97 N[U] ? <u>If it accelerates, find this acceleration. Justify your answer.</u>

2. Provided that the object is suspended by two cables according to the diagram below, what force of tension will keep a 15-kg object at rest?

30

3. A) Find the magnitude of the force of tension in the rope given that the 18.0-kg object accelerates at 1.6m/s^2 [R]. Assume that the surfaces of contact are frictionless.

3. B) Find the magnitude of the force of tension in the rope given that the 18.0-kg object accelerates at 1.6m/s^2 [R]. The coefficient of kinetic friction is 0.21 and the coefficient of static friction is 0.275.

4. Find the mass of a stationary object suspended by two ropes according to the diagram below:

43.56