

Name _____

Show your work, round to the correct significant figures, circle your answers, and label them with units. Use the convention that up is positive.

When you have finished this, go to the website and check your answers. If you got a problem wrong, cross it off on the front, and do it correctly on the back.

A 1.60 kg mass hangs on a rope. (Find the force of gravity here)

1. What does the tension need to be in the rope to accelerate the mass upwards at 3.56 m/s/s?
2. What is the acceleration of the mass if the tension in the rope is 19.3 N?
3. What is the tension in the rope if the mass is accelerating downwards at 7.20 m/s/s?
4. If the tension in the rope is 23.5 N, what time will it take the mass to start from rest and move upward 3.40 m?
5. The mass is moving upwards at 5.30 m/s and stops in a distance of 2.80 m. What is the tension in the rope as it is stopping?