

### Prelab 13

Consider a toy car with a mass of 0.3 kg traveling on a horizontal table top with a speed of 2.4 m/s. The car is attached to a string that is 1.5 meters long. The rope hangs over a pulley to a 0.4 kg mass below. The table is 1 meter high. How high will the car lift the 0.4 kg mass? Construct a symbolic relationship between the mass of the car, the hanging mass, the initial speed of the car and the height the hanging mass is raised. Consider that the rope starts taut.