PHYS 211 Sample Test Question Uniform Circular Motion

1. Circular motions require centripetal forces. The magnitude of the centripetal force is given by,. Name two physical quantities that stay constant and two physical quantities that change during a uniform circular motion.

2. In the figure below, a car (mass = 950 kg) is travelling at a constant speed of 75 km/H. The road is first flat, then a circular hill, and finally a circular valley with the same radius (110 m). Draw a free-body diagram and calculate the normal force on the car when the car is on: (a) the flat road (b) the top of the hill (c) the bottom of the valley.

