

Name: \_\_\_\_\_

## Physics 201 Quiz 4

Feb 4, 2013

### Word Problems

Show all your work and circle your final answer. (Ten points each.)

1. Computer-controlled display screens provide drivers in the Indianapolis 500 with a variety of information about how their cars are performing. For instance, as a car is going through a turn, a speed of 221 mi/h (98.8 m/s) and centripetal acceleration of 3.00 g (three times the acceleration due to gravity) are displayed. Determine the radius of the turn (in meters).

- 2.** Synchronous communications satellites are placed in a circular orbit that is  $3.59 \times 10^7$  meters above the surface of the earth. What is the magnitude of the acceleration due to gravity at this distance?