

Name \_\_\_\_\_

Favorite TV Show \_\_\_\_\_

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.

**Show your work, and circle your answers and use sig figs to receive full credit.**

1. With what maximum velocity can a car go around a 312 m radius curve if it cannot exceed 3.136 m/s/s of lateral acceleration?

2. A Centrifuge has a radius of 5.75 cm, and spins with a period of 0.0171s. What is the centripetal acceleration?

3. What centripetal force would make a 120. kg bike and rider go 17.0 m/s around a 178 m radius corner?

4. A spinning carnival ride has a radius of 4.20 m. What is the period of the ride if it is exerting a centripetal force of 895 N on a 64.0 kg person?

5. What is the minimum coefficient of friction needed for a 1205 kg car to go 27.0 m/s around a level corner with a radius of 280. m? What about a 3450 kg SUV?