

Name _____

Favorite Movie _____

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. A clever Physics teacher swings a bucket in a 1.12 m radius vertical circle at a constant speed. What is the maximum period the motion can have for the water to stay in the bucket?

2. The Zero-G at Oaks Park pulls 1.80 "g"s of centripetal acceleration in a vertical circle. What "g" force do the riders feel at the top and at the bottom?

3. Riders on a Ferris wheel read 0.72 "g"s at the top. What "g"s is the ride doing, and what "g"s would they measure at the bottom? What is the acceleration of the ride in m/s/s?

4. A Rock-O-Plane has a radius of 5.64 m and a period of 6.25 s. What "g" force do they read at the top and the bottom of the ride?

5. A vertical circle ride generates a "g" force of -0.850 "g" (inverted "g"s) at the top. If the ride has a radius of 4.20 m, what is the tangential velocity at the top?