## A Physics Interactive Quiz : Circular Motion Name:

| | # | 1 | question | Answer | | | 0 | <--score |
|---|---|---|---|---|---|---|---|---|
| # | 1 | 5 | kg is the mass of a bucket swinging parallel to the ground with velocity 8 m/s and radius 1.2 meters. Find the centrifugal force on the bucket | | 266.67 | 100 | 0 | |
| # | 2 | 5 | What is the period of the bucket above? | | 0.942 | 100 | 0 | |
| # | 3 | 5 | The same bucket is now swung perpendicular to the ground. What is the period needed to keep the bucket from splashing the spinner? | | 2.1975 | 100 | 0 | |
| # | 4 | 5 | When just weightless at the top, what will be the tension in the rope at the bottom? | | 98 | 100 | 0 | |
| # | 5 | 1200 | kg is the mass of a car rounding a non-banked 200 m turn at 40 m/s. Find the $\mu$ required to stay on the road. | | 8.16e-1 | 100 | 0 | |
| # | 6 | 100 | meters is the radius of a wheel shaped space station with 0.2 g near the rim. Find the period of the space station | | 44.857 | 100 | 0 | |
| # | 7 | 100 | find the velocity of an astronaut on this rim | | 14 | 100 | 0 | |
| # | 8 | 50 | kg is the mass of the astronaut. Find her weight in Newtons | | 98 | 100 | 0 | |
| # | 9 | 4 | kg is the mass of your waterbottle on planet Zot, where Mz is 12 ee 24 kg and Rz is 8 ee 6 m. Find the force on your waterbottle | | 50.025 | 100 | 0 | |
| # | 10 | 2 | times the radius of the earth around the sun a new planet is discovered. What will its period be in days? | | 1032.4 | 100 | 0 | |

***Extra Credit: Explain how cars can become weightless driving over small hills in the road***