

B Physics Interactive Quiz : Circular Motion

Name:

| # | 1 | question | Answer | 0 | <--score |
|------|---|------------------------------------------------------------------------------------------------------------------------------------------------|--------|---|----------|
| # 1 | 4 | 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 | | 0 | |
| # 2 | 4 | What is the period of the bucket above? | | 0 | |
| # 3 | 4 | The same bucket is now swung perpendicular to the ground. What is the period needed to keep the bucket from splashing the spinner? | | 0 | |
| # 4 | 4 | When just weightless at the top, what will be the tension in the rope at the bottom? | | 0 | |
| # 5 | 5 | kg is the mass of a car rounding a non-banked 200 m turn at 40 m/s. Find the μ required to stay on the road. | | 0 | |
| # 6 | 2 | degrees is the angle of a banked turn at a racetrack of radius 200 meters. Find the F_c if a 900 kg car is driving at 54 m/s on this track | | 0 | |
| # 7 | 2 | Find the maximum velocity this car can make it around this track without flying off if μ is 0.8 | | 0 | |
| # 8 | 2 | Find the normal component of the F_c at this velocity | | 0 | |
| # 9 | 6 | kg is the mass of your waterbottle on planet Zot, where M_z is 12 ee 24 kg and R_z is 8 ee 6 m. Find the force on your waterbottle | | 0 | |
| # 10 | 3 | times the radius of the earth around the sun a new planet is discovered. What will its period be in days? | | 0 | |

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