

Quiz 3

Time: 15 minutes

1. let $\mathbf{r}(t)$ be the position vector of a moving particle. Show that if the speed of the particle is constant, then the velocity vector is perpendicular to the acceleration vector.
2. A particle moves with constant acceleration a . Show that the path of the particle lies entirely in some plane.

Bonus: Compute the curvature of a circle of radius R .

Each problem is worth 5pts.