

# QUIZ 4

**Time: 10min**

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1. Compute the curvature of a circle of radius  $r$ .
2. Suppose that a particle has initial position  $r(0) = \langle 1, 0, 0 \rangle$ , and initial velocity  $v(0) = \langle 1, 1, 1 \rangle$ . Find the position vector of the particle,  $r(t)$ , assuming that no force is acting on it ( $a(t) = 0$ ).

*Each problem is worth 5 pts.*