

## Assignment #4

Foundation of Physics: Phys 1001

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Due: Oct 19, 2011

1. Consider a uniform circular motion of a particle that moves at constant speed  $v$  along a circle of radius  $r$ . Use a geometrical method to show that the magnitude of the acceleration along the circular path is  $a = v^2/r$ . What is the direction of the acceleration such that the particle remain on the circular path. Justify.
2. Do problems #14, #28, #32 and #78 of the book (Chapter 3). Please provide the detail of the solution not just the answer!