

THE UNIVERSITY OF CHICAGO

PHYSICS DEPARTMENT

PHYSICS 309

PROBLEM SET 1

Due: Monday, September 10, 2012

1. A particle of mass  $m$  moves in a circular path of radius  $r$  with constant speed  $v$ . Calculate the magnitude of the centripetal force.

2. A particle of mass  $m$  moves in a circular path of radius  $r$  with constant speed  $v$ . Calculate the magnitude of the centripetal acceleration.

3. A particle of mass  $m$  moves in a circular path of radius  $r$  with constant speed  $v$ . Calculate the magnitude of the centripetal force.

4. A particle of mass  $m$  moves in a circular path of radius  $r$  with constant speed  $v$ . Calculate the magnitude of the centripetal force.

5. A particle of mass  $m$  moves in a circular path of radius  $r$  with constant speed  $v$ . Calculate the magnitude of the centripetal force.

6. A particle of mass  $m$  moves in a circular path of radius  $r$  with constant speed  $v$ . Calculate the magnitude of the centripetal force.

7. A particle of mass  $m$  moves in a circular path of radius  $r$  with constant speed  $v$ . Calculate the magnitude of the centripetal force.

8. A particle of mass  $m$  moves in a circular path of radius  $r$  with constant speed  $v$ . Calculate the magnitude of the centripetal force.

9. A particle of mass  $m$  moves in a circular path of radius  $r$  with constant speed  $v$ . Calculate the magnitude of the centripetal force.

10. A particle of mass  $m$  moves in a circular path of radius  $r$  with constant speed  $v$ . Calculate the magnitude of the centripetal force.

11. A particle of mass  $m$  moves in a circular path of radius  $r$  with constant speed  $v$ . Calculate the magnitude of the centripetal force.

12. A particle of mass  $m$  moves in a circular path of radius  $r$  with constant speed  $v$ . Calculate the magnitude of the centripetal force.

13. A particle of mass  $m$  moves in a circular path of radius  $r$  with constant speed  $v$ . Calculate the magnitude of the centripetal force.

14. A particle of mass  $m$  moves in a circular path of radius  $r$  with constant speed  $v$ . Calculate the magnitude of the centripetal force.

15. A particle of mass  $m$  moves in a circular path of radius  $r$  with constant speed  $v$ . Calculate the magnitude of the centripetal force.