**Answer on Question#38347, Physics, Other**

A comet orbits the sun in a highly elliptical orbit. Does the comet have a constant?

1) linear speed

2) angular speed

3) angular momentum

4) kinetic energy throughout its orbit .Justify

**Answer**

1) No. The linear speed of a comet changes when it orbits the sun in a highly elliptical orbit, because the linear speed $v = R \cdot \omega$, where $R$ – distance from the sun and $\omega$ - angular speed of a comet. The distance from the sun and angular speed of a comet varies from point to point in a highly elliptical orbit.

2) No.

3) Yes, as the comet moves under the effect of a pure radial force.

4) No, when the comet is closer to the sun its kinetic energy increases because of increase in its speed.