

Objects like to stay at rest if they were at rest.

Objects like to move along straight line with constant velocity, if they were in motion.

Motion in circles.

- There has to be a force directed toward the center of the circle to make an object move in a circle.

- That force is called a net radial force:

$$F_{\text{NET}(R)}$$

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Nature of the net radial force could be:

- tension
- normal
- friction
- applied
- gravity
- etc.

In general we could say that the **net radial force**, as the name implies, is a combination of any forces acting along the radius of the circle.

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UCM = uniform circular motion

Uniform means constant (it does not change in time)

What are the uniform variables in the UCM?

- speed? **YES** (by definition)

- velocity?

- acceleration?

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UCM = uniform circular motion

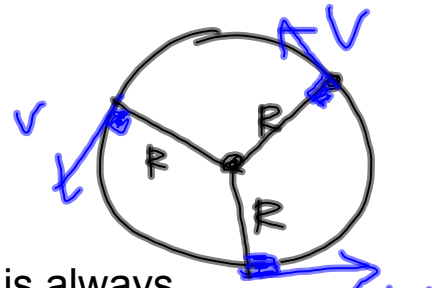
Uniform means constant (it does not change in time)

What are the uniform variables in the UCM?

- speed? **YES** (by definition)

- velocity? **NO!** Change of direction

- acceleration? **YES**



V is always perpendicular (tangent) to the radius of the circle.

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