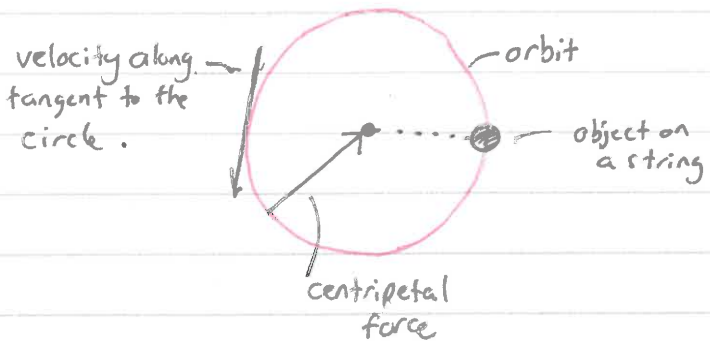
Circular Motion

for an object moving in a circle at a constant speed

* The objects velocity is directed along a tangent to the circle.
* Its velocity changes direction as it moves around.
* The change of velocity is towards the centre of the circle.

This means the object is always accelerating towards the centre, this is known as centripetal acceleration.

Any object moving in a circle must be acted on by a resultant force that acts towards the centre of the circle, this is known as centripetal force.



Three factors affecting centripetal force is the mass of the object, speed of the object and radius of the circle/orbit.

* The greater the mass, the more centripetal force needed to keep it in orbit.
* The greater the speed, the more centripetal force needed to keep it in orbit.
* The smaller the radius of the orbit/circle, the more centripetal force needed.