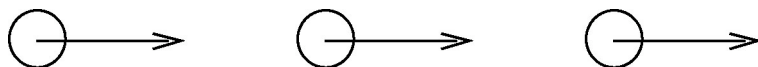
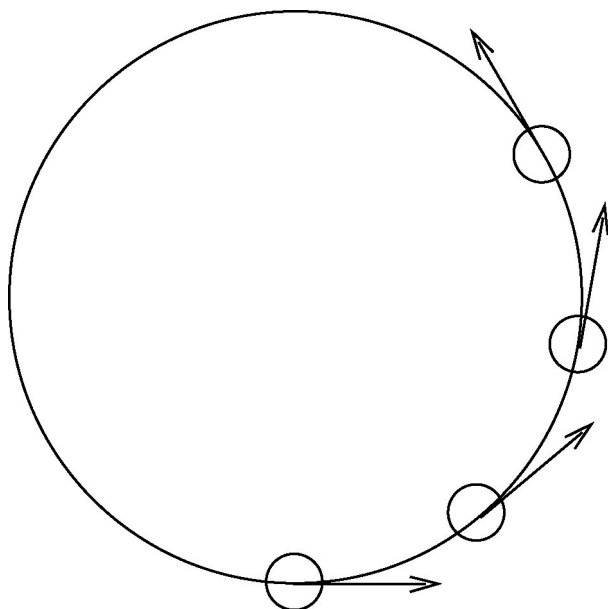


## CENTRIPETAL AND TANGENTIAL FORCES

Body moving in a straight line at constant velocity:

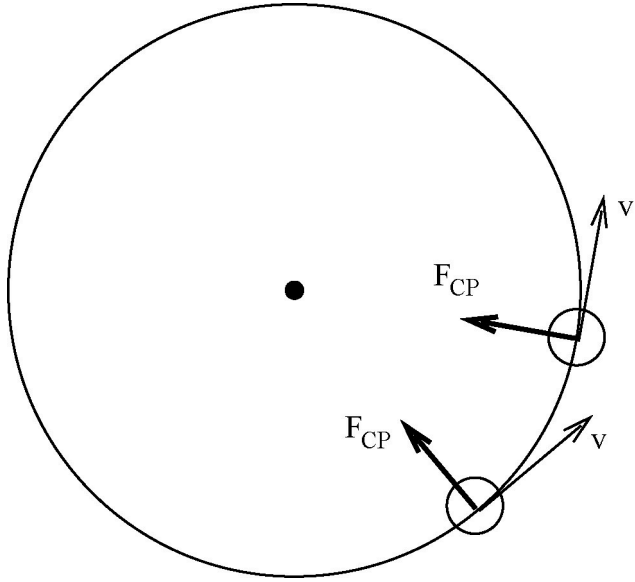


Body moving in a circular path with velocity of constant size:



Size of velocity vector is constant, but direction is changing.

→ This requires a force.

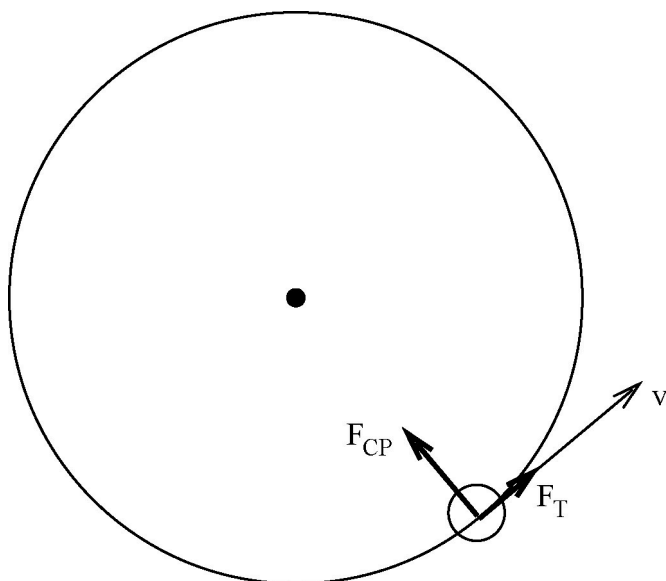
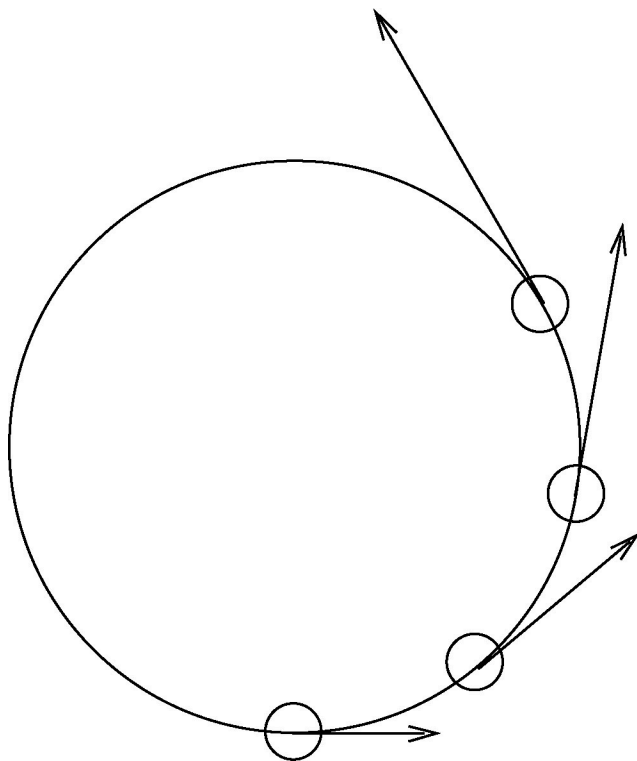


$F_{CP}$  = "centripetal force"

$$F_{CP} = m \cdot \frac{v^2}{r}$$

$$a_{CP} = \frac{F_{CP}}{m} = \frac{v^2}{r}$$

If the size of the velocity vector changes:



$F_T$  = "tangential force"

$$F_T = m \cdot \frac{\Delta|\vec{v}|}{\Delta t} = m \cdot a_T$$

