

Question:19927

- 1) If a car moves with a uniform velocity in a circle what will it's acceleration be?
- 2) And If a car moves with a uniform speed in a circle what will it's velocity be?

Answer:

At movement on a circle the car has:

- 1) The radial acceleration (or centripetal acceleration)

$$a_r = \frac{v^2}{R}, \text{ where: } R - \text{is the radius, } v - \text{is the velocity}$$

- 2) The angular velocity (the change in angular displacement per unit time)

$$\omega = \frac{v}{R}, \text{ where: } R - \text{is the radius, } v - \text{is the translational speed}$$