Motion



When a person travels along a semi-circular path

Distance covered = πr

Displacement = 2r

Rest	Uniform velocity	Uniformly accelerated
The position of the object does not change with time	The object moves with same speed along the same direction	The velocity of the object
d		Ť

Term	Description	Formula
Distance	Actual distance covered	Calculated from displacement
	Scalar	
Displacement	Separation between two	<i>vt</i> * 1
	points	$ut + \frac{1}{2}at^2$
	Vector	2
		$\frac{v^2 - u^2}{2}$
		-2a
Velocity	Rate at which an object	
[initial velocity= <i>u</i>]	changes its velocity	v = u + at
[Final velocity=v]	Vector	
	Magnitude of velocity is speed	
Acceleration[a]	Rate of change of velocity	$a = \frac{v - u}{u}$
	Vector	t

*formula valid only for constant velocity motion.

1. v = u + at2. $s = ut + \frac{1}{2}at^{2}$ 3. $v^{2} - u^{2} = 2as$

Uniform circular motion



- 1. Speed is constant
- 2. Direction of motion continuously changes
- 3. Hence, velocity changes at every instant
- 4. Force and acceleration are acting radially inward