

PROBLEMS

1. A particle of mass m moves in a straight line with constant acceleration a . It starts from rest at the origin O at time $t = 0$. Show that the distance s travelled in time t is given by $s = \frac{1}{2}at^2$.

2. A particle of mass m moves in a straight line with constant acceleration a . It starts from rest at the origin O at time $t = 0$. Show that the velocity v at time t is given by $v = at$.

3. A particle of mass m moves in a straight line with constant acceleration a . It starts from rest at the origin O at time $t = 0$. Show that the displacement s at time t is given by $s = \frac{1}{2}at^2$.

4. A particle of mass m moves in a straight line with constant acceleration a . It starts from rest at the origin O at time $t = 0$. Show that the velocity v at time t is given by $v = at$.

5. A particle of mass m moves in a straight line with constant acceleration a . It starts from rest at the origin O at time $t = 0$. Show that the displacement s at time t is given by $s = \frac{1}{2}at^2$.

Time t	Velocity v	Displacement s
0	0	0
$\frac{1}{2}t$	$\frac{1}{2}at$	$\frac{1}{8}at^2$
t	at	$\frac{1}{2}at^2$
$\frac{3}{2}t$	$\frac{3}{2}at$	$\frac{9}{8}at^2$
$2t$	$2at$	$2at^2$

KINGSTON

