Kinematics:

1. A Particale starts from rest and moves in a straight line. It velocity at any time *t* seconds is given by *v(t) = t(t-4)ms-1*.

Find the distance traveled between the two times when the particle is at rest.

2. A particle starts from rest and its acceleration, in ms-2 , can be modeled by *a(t) = 1-e-2t* , 0$\leq t\leq $ 3.

Find the distance traveled in the first 3 seconds.

3. The velocity of a particle moving in a straight line is given by *v(t) = 10 + 5e-0.5t* ms-1.

1. Show that the acceleration of the particle at any time *t* is always negative.

b.) Find the total distance covered in the first 2 seconds.