**8E Integrating Vectors**

1. A particle is moving in a plane. At time seconds, its velocity, , is given by:

When , the position vector of with respect to a fixed origin is . Find the position vector of at time seconds

1. A particle is moving in a plane so that, at time seconds, its acceleration is:

At , the velocity of is and the position vector of is with respect to a fixed origin . Find:

1. The angle between the direction of motion of , and , when
2. The distance of from when
3. The velocity of a particle at time seconds is given by:

When , the position vector of with respect to a fixed origin is

1. Find the position vector of after seconds

A second particle moves with constant velocity . When , the position vector of Q with respect to the origin is .

b) Prove that and collide