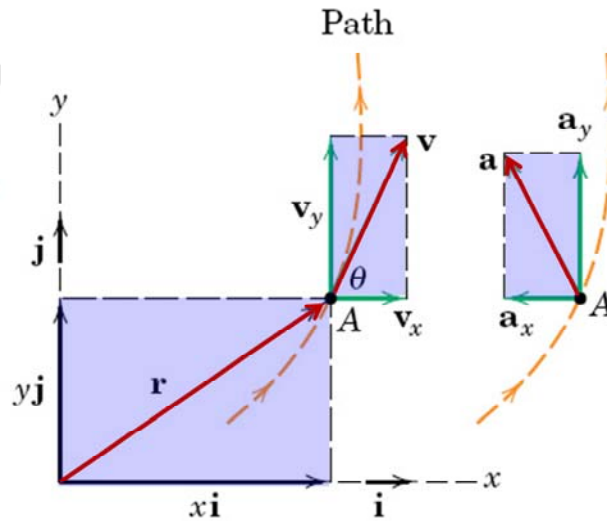


Question of the Day

A particle moving along a curved path has a **position vector** (\mathbf{r}) given by

$$\mathbf{r} = x\mathbf{i} + y\mathbf{j}$$

Determine the **velocity** and **acceleration** of the particle.



ME 231: Dynamics

$$\mathbf{v} = \frac{d\mathbf{r}}{dt} = \dot{\mathbf{r}} = \dot{x}\mathbf{i} + \dot{y}\mathbf{j}$$

$$\mathbf{a} = \frac{d\mathbf{v}}{dt} = \dot{\mathbf{v}} = \ddot{\mathbf{r}} = \ddot{x}\mathbf{i} + \ddot{y}\mathbf{j}$$