

Quiz 09/23

Name_____

Mass m moves on a circle of radius R . The position vector at time t is

$$\mathbf{r}(t) = \mathbf{e}_x R \cos(\varphi(t)) + \mathbf{e}_y R \sin(\varphi(t))$$

/a/ Calculate the acceleration vector, $\mathbf{a}(t)$. Show your work.

/b/ Draw the acceleration vector on the graph (at point Q) when $\varphi(t) = 90$ degrees, assuming $d^2\varphi/dt^2$ is positive.

