Homework H.1.D

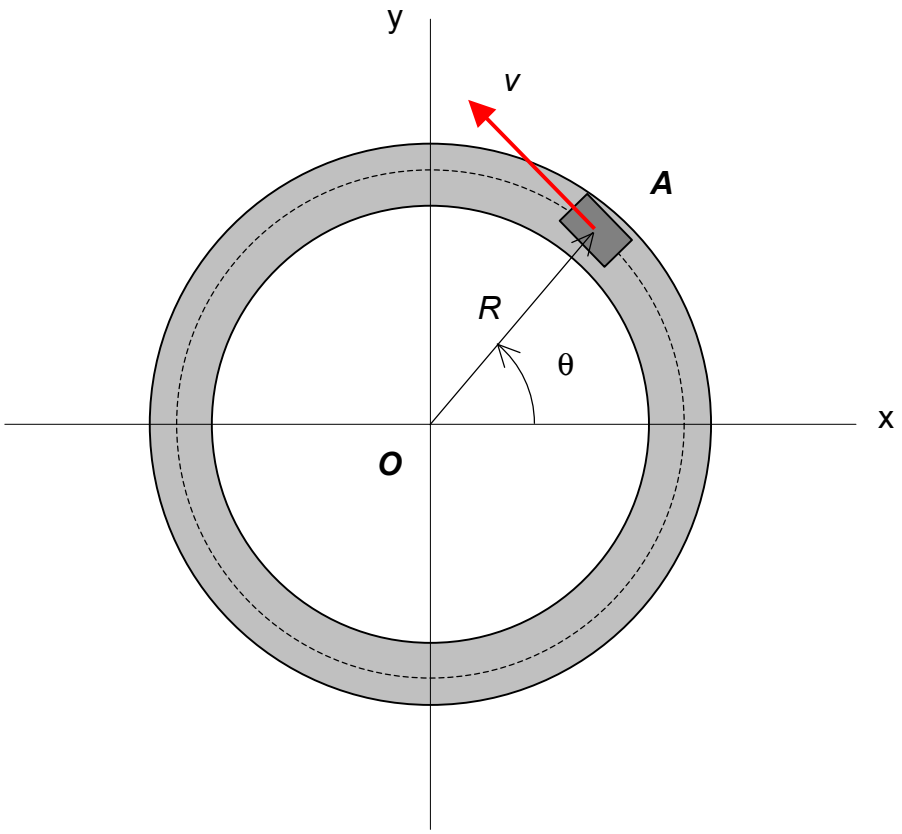
Given: An automobile A is traveling on a circular path centered at O and having a radius of R. The automobile has a speed of v and is changing this speed at a rate of $\dot{v}$.

Find: For this problem:

(a) Determine the acceleration of A. Write this as a vector in terms of its x-y components.

(b) Make a sketch of the acceleration vector for A.

(c) Determine the magnitude of the acceleration of A in terms of the number of "g's" experienced by a passenger in the automobile.



Use the following parameters in your analysis: $R = 75$ m, $\theta = 135°$, $v = 10$ m/s and $\dot{v} = -6$ m/s^2.