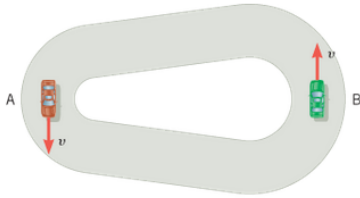


Answer on Question #49035-Physics-Other

Two cars are driving at the same constant speed v around a racetrack. However, they are traveling through turns that have different radii, as shown in the drawing. Which statement is true about the magnitude of the centripetal acceleration of each car?



Answer

b. The magnitude of the centripetal acceleration $\frac{v^2}{r}$ of the car at A is greater than that of the car at B, since the radius of the circular track is smaller at A. $\left(\frac{v^2}{r_A} > \frac{v^2}{r_B}\right)$