

Answer on Question #43382, Physics, Acoustics

a car turns a corner at 10mph. If it were to turn the corner at 30 mph, the centripetal acceleration would be ??? nine times larger; three times larger; one third as large; one ninth as large.

Solution

Correct answer is "nine times larger", because centripetal acceleration and velocity are connected as

$$a = \frac{v^2}{r}$$