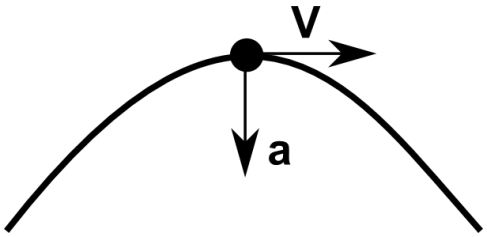
Answer on Question 48683, Physics, Mechanics | Kinematics | Dynamics |

Question:

The acceleration of a particle travelling at a speed of 40 m/s going ground a curve of radius 16 m is?

Solution:



When particle going ground a curve, the acceleration will be directed toward the center of a curve. The acceleration in this case would be:

$$a = \frac{v^2}{r} = \frac{\left(40\frac{m}{s}\right)^2}{16m} = 100\frac{m}{s^2}.$$

Answer:

The acceleration of a particle is $100\frac{m}{s^2}$.