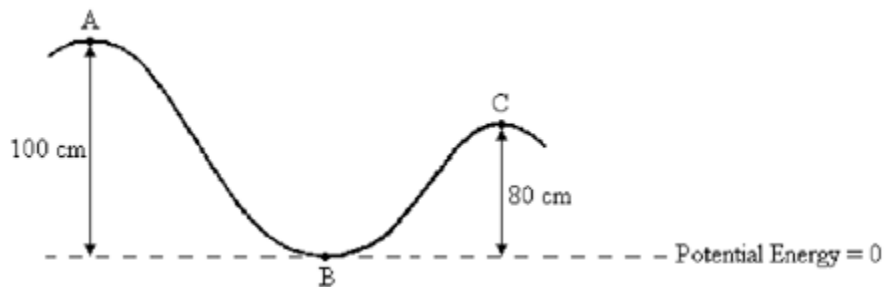**Answer on Question #62081-Physics-Mechanics-Relativity**

A bead slides on the frictionless wire as shown in the figure attached. If the speed of the bead is 2.0 m/s when it is at A, how fast will the bead be going at point B and at point C?

Solution

$$\frac{mv^2}{2} + mgh = const$$

$$\frac{v^2}{2} + gh = const$$

At B:

$$\frac{v^2}{2} = \frac{2^2}{2} + (9.8)(1)$$

$$v = 4.9\frac{m}{s}.$$

At C:

$$\frac{v^2}{2} = \frac{4.9^2}{2} - (9.8)(0.8)$$

$$v = 2.9\frac{m}{s}.$$