Answer on Question #66835-Physics-Mechanics | Relativity

Draw a sketch of the graph that best describes the relationship between the vertical distance an object falls from rest in frictionless conditions and the speed that it attains

Solution

From the conservation of energy:

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

$$h = \frac{v^2}{2g} = \frac{v^2}{2(10)} = 0.05v^2$$

The graph is