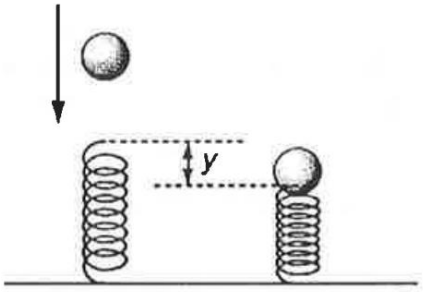
7 A ball of mass m falls freely from rest as shown below. When it has reached a speed v, it just strikes a vertical spring. The spring is then compressed by a distance y and the ball comes to a rest.



Assuming that all the energy the ball loses becomes elastic potential energy in the spring, what is the maximum force exerted by the spring during its compression?

A $\frac{mv^2}{2y}$ **B** $\frac{m}{2y}(v^2 - 4gy)$ **C** $\frac{mv^2}{y}$ **D** $\frac{m}{y}(v^2 + 2gy)$