A basketball is dropped from a height of 2.0 m. Ignoring air resistance, what is the speed of the ball as it reaches the floor?

Solution.

According the law of conservation of energy we have

$$\frac{Mv^2}{2} = Mgh$$

$$h = 2.0\, meters$$

$$v = \sqrt{2gh} \approx 6.3\, m/s$$

Answer

$$v = \sqrt{2gh} \approx 6.3\, m/s$$