

- 18** A steel sphere is dropped vertically onto a horizontal metal plate. The sphere hits the plate with speed u , leaves it at speed v , and rebounds vertically to half of its original height. Ignore air resistance.

Which expression gives the value of $\frac{v}{u}$?

A $\frac{1}{2^2}$

B $\frac{1}{2}$

C $\frac{1}{\sqrt{2}}$

D $1 - \frac{1}{\sqrt{2}}$