

- 3** A mug slides across a frictionless bar counter with constant velocity  $u$ . It tips over the edge and falls to the ground in projectile motion.

Which of the following expressions represents the horizontal distance from the base of the bar counter if the mug hits the ground with vertical velocity component  $v$ ?

**A**  $\frac{uv}{g}$

**B**  $\frac{u^2}{g}$

**C**  $\frac{v^2}{g}$

**D**  $\frac{uv}{2g}$