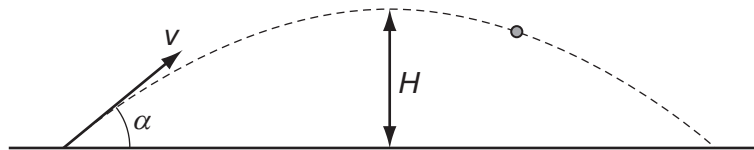**3**   A cannon fires a cannonball with an initial speed v at an angle α to the horizontal.

Which equation is correct for the maximum height H reached?

A $H = \dfrac{v \sin \alpha}{2g}$ **B** $H = \dfrac{g \sin \alpha}{2v}$ **C** $H = \dfrac{(v \sin \alpha)^2}{2g}$ **D** $H = \dfrac{g^2 \sin \alpha}{2v}$

Space for working