27 An aircraft flies at a velocity v_s directly away from a stationary observer.

The aircraft emits a sound of constant frequency.

The speed of sound in air is v.

The frequency of the sound heard by the observer on the ground is 500 Hz.

The speed of the aircraft is increased so that it flies away from the observer at a greater velocity.

The observer now hears a sound of frequency 250 Hz.

Which expression gives the new velocity of the aircraft?

A $2(v + v_s)$ **B** $\frac{v + v_s}{2}$ **C** $2v_s + v$ **D** $2v_s - v$