13 When a gas, trapped in a syringe, expands from volume V_i to volume V_f against a constant atmospheric pressure P, it does work against the atmosphere.

Which quantity should be multiplied by P in order to calculate the work done by the gas as it expands?

A $V_f + V_i$ **B** $\frac{V_f + V_i}{2}$ **C** $V_f - V_i$ **D** $\frac{V_f - V_i}{2}$