14 A fixed mass of monatomic ideal gas at a volume V at temperature T and pressure P has a root mean square speed of $\sqrt{\langle c^2 \rangle}$. After absorbing heat, its final volume is V and final pressure is $2P$.

What is the new root mean square speed of the ideal gas?

A $0.50\sqrt{\langle c^2 \rangle}$ **B** $0.71\sqrt{\langle c^2 \rangle}$ **C** $1.4\sqrt{\langle c^2 \rangle}$ **D** $2.0\sqrt{\langle c^2 \rangle}$