Good Form in answering questions

Example:
What is the average speed of an air molecule (at room temperature and atmospheric pressure)?

Equipartion Thm: \( \frac{1}{2} mv^2 = \frac{3}{2} kT \)

\[
\begin{align*}
v &= \sqrt{\frac{3kT}{m}} = \sqrt{\frac{3 \times 1.4 \times 10^{-23} \times 300}{29 \times 1.66 \times 10^{-27}}} \\
&\approx 510 \text{ m/s}
\end{align*}
\]

Answer is independent of pressure.

Please note:

- Derive algebraic answer first – so reader can see functional relationships and you can see when terms cancel. Symbols and constants only. No numbers with units.
- Then, in last step, rewrite formula with numbers, so reader can see which number corresponds to which symbol.
- It’s OK to leave out units in intermediate steps, if it is obvious that you are using a consistent set of units, like SI.
- Almost always, 2- or 3-place precision is fine. Do not use more precision than is needed or justified.
- Final numerical answer must always have units.