1. Given that the concentration flowing into a reactor is \( 3.5 \text{ mole/liter} \) and the volumetric flow rate is \( 25 \text{ gal/min} \), what is the molar flow rate in \( \text{ mole/s} \)?

2. The following data is available for a CSTR. Calculate the volume of the reactor in liters.

\[
F_{A_0} = 0.25 \text{ mole/min} ; \quad F_A = 0.025 \text{ mole/min} ; \quad -r_A = 0.001 \text{ liter/mole min}
\]