1. A sample of 3.0 grams of an ideal gas at 127°C and 1.0 atmosphere pressure has a volume of 1.5 liters. Which of the following expressions is correct for the molar mass of the gas?

(A) $\frac{(0.0821)(400)}{(3.0)(1.0)(1.5)}$

(C) $\frac{(3.0)(0.0821)(400)}{(1.0)(1.5)}$

(B) $\frac{(1.0)(1.5)}{(3.0)(0.0821)(400)}$

(D) $\frac{(3.0)(0.0821)(1.5)}{(1.0)(400)}$

2. Equal numbers of moles of He(g), Ar(g), and Ne(g) are placed in a glass vessel at room temperature. If the vessel has a pinhole-sized leak, which of the following will be true regarding the relative values of the partial pressures of the gases remaining in the vessel after some of the gas mixture has effused?

(A) $P_{He} < P_{Ne} < P_{Ar}$
(B) $P_{He} < P_{Ar} < P_{Ne}$
(C) $P_{Ne} < P_{Ar} < P_{He}$
(D) $P_{Ar} < P_{He} < P_{Ne}$