

$$13. \quad m = ?$$

$$N = 7.9 \times 10^{23}$$

$$O_2$$

$$m = nM$$

$$= 1.31(32.00)$$

$$= 42.0 \text{ g}$$

$$n = \frac{N}{N_A}$$

$$= \frac{7.9 \times 10^{23}}{6.022 \times 10^{23}}$$

$$= 1.31 \text{ mol}$$

$$14. \quad v = ?$$

$$m = 43.7 \text{ g}$$

$$He$$

$$v = nV$$

$$= 10.9 \text{ mol}$$

$$\times \frac{22.7 \text{ L/mol}}{248 \text{ L}}$$

$$n = \frac{m}{M} = \frac{43.7 \text{ g}}{4.00 \text{ g/mol}}$$

$$= 10.9 \text{ mol}$$

$$15. \quad m = ?$$

$$v = 122.4 \text{ L}$$

$$Ne$$

$$m = nM$$

$$= 5.39 \text{ mol}$$

$$\times 20.18 \text{ g/mol}$$

$$\underline{109 \text{ g}}$$

$$n = \frac{v}{V} = \frac{122.4 \text{ L}}{22.7 \text{ L/mol}}$$

$$= 5.39 \text{ mol}$$

$$16. \quad N = ?$$

$$m = 10.0 \text{ g}$$

$$O_2$$

$$N = nN_A$$

$$= 0.3125$$

$$\times 6.022 \times 10^{23}$$

$$1.88 \times 10^{23} \text{ molecules}$$

$$n = \frac{m}{M}$$

$$= \frac{10.0 \text{ g}}{32.00 \text{ g/mol}}$$

$$= 0.3125 \text{ mol}$$

$$17. \quad n = ?$$

$$m = 26.8 \text{ g}$$

$$Xe$$

$$n = \frac{m}{M} = \frac{26.8 \text{ g}}{131.30} = 0.204 \text{ mol}$$