$$n = \frac{V}{V_m} = \frac{35\,L}{24.8\,L/mol} = 1.4,\ mol$$

$$N = n \cdot N_A = 1.4,\ mol \times 6.02 \times 10^{23}\ \frac{molecules}{mol} = \boxed{8.5 \times 10^{23}\ molecules}$$

10. mass → moles → Volume

M: $12.01\ g/mol + 2(16.00\ g/mol) = 44.01\ g/mol$

$$n = \frac{m}{M} = \frac{40.0\ g}{44.01\ g/mol} = 0.908_9\ mol$$

$$V = n \cdot V_m = (0.908_9\ mol)\left(\frac{22.4\,L}{mol}\right) = \boxed{20.4\,L}$$

11.

a) $m = n \times M$

$= (0.333 mol)(2 \times 16.00\ g/mol)$

$= \boxed{10.7\ g}$

b) $V = nV_m$

$= (0.333 mol)\left(\frac{22.4\,L}{mol}\right)$

$= \boxed{7.46\,L}$

c) $N = n \cdot N_A$

$= (0.333 mol)\left(6.02 \times 10^{23}\ \frac{molecules}{mol}\right)$

$= \boxed{2.00 \times 10^{23}\ molecules}$

d) Each molecule of Oxygen (O_2) contains 2 atoms:

$2.00 \times 10^{23}\ molecules \times \frac{2\ atoms}{1\ molecule}$

$= \boxed{4.00 \times 10^{23}\ atoms}$

12. All questions were easy because I made the assignment and I have a Major in chemistry!

(answers will vary)