

1) b)  $8.1 \times 10^{-2} \text{ kg} \cdot \text{m/s} = 0.081 \text{ kg} \cdot \text{m/s}$

2) ? L =  $540 \text{ L} = 5.4 \times 10^2 \text{ L}$

3) ? km =  $1.55 \times 10^{-12} \text{ km}$

4) ?  $\frac{\text{kg}^3}{\text{dm}^3} = 4.52 \times 10^{-6} \text{ kg/dm}^3$

7)  $342.14 \text{ g}$

8) ? atoms of Cu =  $3.6 \times 10^{24}$

11) MM =  $1.1 \text{ g/mol}$

12) a) ? g  $\text{Fe}_2\text{O}_3 = 160 \text{ g Fe}_2\text{O}_3$

b) equiv FeO = 1.5; equiv  $\text{O}_2 = 3$

13) a) ? g  $\text{Cl}_2 = 3.0 \text{ g Cl}_2$

b) ? L  $\text{H}_2 = 0.065 \text{ L H}_2$

14) a) equiv  $\text{N}_2 = 0.125$ ; equiv  $\text{H}_2 = 0.093$

b) ? g  $\text{NH}_4\text{Cl} = 9.9 \text{ g NH}_4\text{Cl}$

c) % yield =  $48\%$

15) %O =  $76.17\% \text{ O}$



18)  $m_{\text{H}_2\text{O}} = 130 \text{ g}$

24) A =  $10 \text{ g}$

31) a)  $\nu = 4.2 \times 10^{14} \text{ s}^{-1} = 4.2 \times 10^{14} \text{ Hz}$

b)  $E = 2.8 \times 10^{-19} \text{ J}$