

Chapter 1.

24. c and e

26. physical, chemical, chemical, chemical, physical

28. a and d homogeneous, b and c heterogeneous

36. 4.5×10^{-5} kg, 1.25×10^{-7} s, 1.07×10^{-5} L

38b. 1064.76 °C, 327.43 °C, -114.5 °C

50. 4, 3, 3, 3, 3, 3

52. 8.352×10^3 m, 3.000×10^2 s, 8.85×10^{-2} cm, 1.222×10^2 s

54. 318000 m (zeros not signif.), 750 mL (zero signif),
0.00041 s , 92000 m (last zero not signif)

60. 4.90×10^2 g

64. Not gold. Density does not match.

81. 62.32 lb/ft^3

Chapter 2.

22. 0.4467 g

26. Yes (percent composition is the same)

32. a. 90,142,90 b. 26,29,26 c. 19,20,19 d. 79,118,79

40. 87.62 u

50. a. nitrogen dioxide b. xenon trioxide c. iodine
pentafluoride d. silicon disulfide e. PCl_3 f. SO_2 g.
 Cl_2O_7 h. P_4O_{10}

52. lithium ion, copper (II) ion, nitride ion, Fe^{2+} , O^{2-} , Se^{2-}

58. TiO_2 , $\text{CaC}_2\text{O}_4 \cdot \text{H}_2\text{O}$, NH_4HCO_3 , $(\text{NH}_4)_2\text{HPO}_4$,
 $\text{MgSO}_4 \cdot 7\text{H}_2\text{O}$, $\text{CuSO}_4 \cdot 5\text{H}_2\text{O}$

64. chlorous acid, barium hydroxide, ammonia, carbonic acid, phosphoric acid, oxalic acid, H_2S , HIO_4 , HBrO_3 ,
 $\text{Sr}(\text{OH})_2$

68. ... (hard to type) ...

Chapter 3

18a. 120.18 u (emp.) f. 108.02 u (mol.)

22a. 233 g

24c. 0.380 mol

34. a. 52.77% b. 528 g c. 1.90 kg

36. a. $\text{C}_2\text{H}_4\text{O}$ b. $\text{C}_4\text{H}_9\text{O}$

54. a. 1,2,1,4 b. 1,3,1,3 c. 1,8,5,6 d. 1,12,4,3 e. 1,6,2,3

f. 1,6,3,2 g. 1,1,2 h. 1,4,1,1,2 i. 4,3,2,6

58a. $2\text{HgO} (\text{s}) \rightarrow 2\text{Hg} (\text{l}) + \text{O}_2 (\text{g})$

64. a. 0.415 g b. 41.8 g c. 1.35×10^3 mol d. 27.8 g
 H_2O

74. a. H_2O b. 0.313 mol