

Partial key for chemistry workshop of October 15

1a. aluminum oxide b. silicon tetraiodide c. cesium nitride d. potassium oxide
e. oxygen difluoride f. beryllium oxide g. mercury(II) sulfate h. lead(IV) oxide
i. iron(II) cyanide j. nitrous acid k. ammonium sulfate l. sodium hydrogen sulfate
m. barium dihydrogen phosphate n. sodium phosphate
o. potassium permanganate

2. a. $\text{Pb}(\text{ClO}_4)_4$ b. HF c. $\text{Zn}(\text{C}_2\text{H}_3\text{O}_2)_2 \cdot 2 \text{H}_2\text{O}$ d. BaCl_2
e. BF_3 f. Li_3P g. H_2Se h. NaCn i. Cs_2CO_3
j. NaHSO_3 k. $\text{Zn}(\text{H}_2\text{PO}_4)_2$ l. $\text{Mg}(\text{OH})_2$ m. NH_4HCO_3

3.a. 1 Pb; 8 C; 20 H

b. $207.2 + 8 \times 12.0 + 20 \times 1.01 = 323.4 \text{ amu}$

c. Pb: $207.2/323.4 \times 100 \% = 64.1 \%$

C: $96.0/323.4 \times 100 \% = 29.7 \%$

H: $20.2/323.4 \times 100 \% = 6.2 \%$

As a quick check, $64.1 + 29.7 + 6.2 = 100 \%$

4. a. K_3AsO_4

b. $3 \times 39.1 + 74.9 + 4 \times 16.0 = 256.2 \text{ amu}$

c. $74.9/256.2 \times 100 \% = 29 \%$

d. Think of it as 29 % of 1 % = 0.29 or 0.3 %