1) a) NaBr = 102.899 g/mol

$Na = \dfrac{22.9898}{102.899} \times 100 = \mathbf{22.3421\%}$

$Br = \dfrac{79.909}{102.899} \times 100 = \mathbf{77.6577\%}$

b) $KHCO_3$ = 100.119 g/mol

$K = \dfrac{39.102}{100.119} \times 100 = \mathbf{39.056\%}$

$H = \dfrac{1.00797}{100.119} \times 100 = \mathbf{1.00677\%}$

$C = \dfrac{12.0112}{100.119} \times 100 = \mathbf{11.9969\%}$

$O = \dfrac{3 \times 15.9994}{100.119} \times 100 = \mathbf{47.9412\%}$

c) $FeCl_3$ = 162.206 g/mol

$Fe = \dfrac{55.847}{162.206} \times 100 = \mathbf{34.430\%}$

$Cl = \dfrac{3 \times 35.453}{162.206} \times 100 = \mathbf{65.570\%}$

d) Si = 16.531%   Cl = 83.469%

e) Al = 15.7722%   S = 28.115%   O = 56.1151%

f) Ag = 63.4996%   N = 8.24530%   O = 28.2550%

2) a) Zn = 47.97%   Cl = 52.03%

b) N = 18.1708%   H = 9.1534%   C = 31.1641%   O = 41.5118%

c) Mg = 12.26%   P = 31.246%   O = 56.491%

d) N = 24.121%   H = 6.9432%   S = 27.608%   O = 41.3281%

e) Co = 24.0595%   N = 17.1547%   O = 58.7858%

f) I = 54.404%   Cl = 45.596%

3) a) FeO = 71.846 g/mol

$Fe = \dfrac{55.847 \times 1}{71.846} \times 100 = \mathbf{77.731\%}$

b) Fe_2O_3 = 159.692 g/mol

$Fe = \dfrac{55.847 \times 2}{159.692} \times 100 = \mathbf{69.943\%}$

c) Fe_3O_4 = 231.539 g/mol

$Fe = \dfrac{55.847 \times 3}{231.539} \times 100 = \mathbf{72.630\%}$

d) $K_4Fe(CN)_6$ = 368.362 g/mol

$Fe = \dfrac{55.847 \times 1}{368.362} \times 100 = \mathbf{15.161\%}$

4) a) Cl = 47.553%

b) Cl = 34.049%

c) Cl = 92.192%

d) Cl = 83.631%

5) oxygen = 14.20g – 6.20g = 8.00g

$P = \dfrac{6.20}{14.20} \times 100 = \mathbf{43.7\%}$

$O = \dfrac{8.00}{14.20} \times 100 = \mathbf{56.3\%}$

A few notes: The percentages do NOT add up to 100%, but they are close enough. Also, this is an example of when to use (mass of what you are talking about)/(total mass present)x100 = % comp.

6) compound molar mass = 6.00g + 1.00g + 17.75g = 24.75 g/mol

$C = \dfrac{6.00}{24.75} \times 100 = \mathbf{24.2\%}$

$H = \dfrac{1.00}{24.75} \times 100 = \mathbf{4.0\%}$

$Cl = \dfrac{17.75}{24.75} \times 100 = \mathbf{71.7\%}$

7) a) H_2O_2
    b) N_2O_3
    c) they are the same

8) a) $NaClO_3$
    b) $KHSO_4$
    c) $Na_2Cr_2O_7$