KEY

Chapter 4 Review

1. How many protons, neutrons and electrons are in the following atoms:
   a. ^{21}Ne
   b. ^{39}K
   c. ^{48}Ti
   d. ^{80}Br

2. Each of the following nuclides is used in medicine. Indicate the number of protons and neutrons in each nuclide:
   a. cobalt-60
   b. iodine-131
   c. phosphorus-32

3. Calculate the average atomic mass of the lead samples shown below:

Isotope	Abundance
Lead-204	1.37%
Lead-206	26.26%
Lead-207	20.82%
Lead-208	51.55%

4. Complete the table

Symbol	Atomic #	Mass #	p	n	e
^{31}P	15	31	15	16	15
^{56}Fe	26	56	26	30	26
^{119}Sn	50	119	50	69	50

5. Calculate the average atomic mass of the copper samples shown below:

Isotope	Mass (amu)	Abundance
^{63}Cu	62.93	69.2%
^{65}Cu	64.93	30.8%

6. Calculate the average atomic mass of the Mg samples shown below:

Isotope	Mass (amu)	Abundance
^{24}Mg	23.985	78.70%
^{25}Mg	24.986	10.13%
^{26}Mg	25.983	11.17%

7. Complete the table

Isotopes	Atomic #	Mass #	p	n	e
Calcium-43	20	43	20	23	20
Lead-211	82	211	82	129	82
Plutonium-242	94	242	94	148	94
Chromium-50	24	50	24	26	24

Chp. 4 Review KEY

1. a. ^{20}Ne = 10, 10, 10
   b. ^{39}K = 19, 20, 19
   c. ^{48}Ti = 22, 26, 22
   d. ^{80}Br = 35, 45, 35
2. a. cobalt-60 = 27, 33
   b. iodine-131 = 53, 98
   c. phosphorus-32 = 15, 17
3. ave. mass = (204)(.0137) + (206)(.2626) + (207)(.2082) + (208)(.5155) = 207.2 amu
4. (on sheet)
5. ave. mass = (63)(.692) + (65)(.308) = 63.616 amu
6. ave. mass = (24)(.7870) + (25)(.1013) + (26)(.1117) = 24.32 amu
7. (on sheet)