Worksheet on Atomic Structure #2

Fill in the following table:

Species	atomic #	mass #	protons	neutrons	electrons
$^{137}_{56}Ba$					
$^{85}_{37}Rb$					
$^{98}_{43}Tc$					
$^{70}_{31}Ga$					
$^{79}_{34}Se$					
	2				0
		20			
			18		
			25		23
			35		36
			38		36
$^{52}_{24}Cr^{2+}$					
$^{53}_{24}Cr^{3+}$					
$^{54}_{24}Cr^{5+}$					
	94				
			106		
	7				10

Part II: Calculations of Isotopes

1) There are two major isotopes of Lithium. The first has a mass of 6.015 amu and represents 7.59%. The other is mass 7.0160 amu, which accounts for 92.41%. What is the average atomic mass of naturally occurring Lithium?

2) The two major isotopes of Chlorine have masses of 34.9689 amu at 75.78% and 36.9659 amu at 24.22%. Calculate the mass of naturally occurring chlorine.

3) Carbon has four known isotopes. Mass 12.0000 amu accounts for 98.93%, mass 13.0034 accounts for 1.07% and masses 11 and 14 making up less than 0.001% of naturally occurring carbon. What is the average atomic mass of naturally occurring carbon?

4) The majority of naturally occurring Nitrogen has mass 14.0030 amu at 99.632%. The other is mass 15.0001 amu. What number should show on the periodic table for Nitrogen?

5) There are three isotopes of Magnesium. One has a mass of 23.9850 amu at 78.99%, one is mass 24.9858 amu at 10.00%, and the third is mass 25.9826 amu at 11.01%. Find the mass that should show on the periodic table.

6) Gallium has two known isotopes, one with a mass of 68.256 amu representing 60.11%. If the mass of natural Gallium is 69.72 amu what is the mass of the second isotope?

7) Rubidium has two major isotopes. One is mass 84.9118 amu and one is mass 86.9092. Calculate the percent abundance of each isotope if the average mass is 85.47 amu.