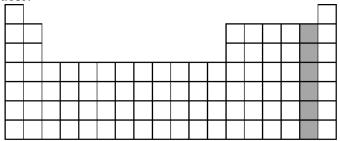
Periodic Table and Atomic Structure

1. Consider this periodic table.



- a. What is the group number (include both the "Old" and "New" numbers) and group name indicated by the shading? 17 (or 7A or VIIA)
- b. What elements make up this group? F, Cl, Br, I, At, Ts (halogens)
- c. What is the number of outer electrons for each element of this group? 7

2. Using the periodic table as a guide, give the name and symbol of the element that has the given number of protons in the nucleus.

# Protons	6	2	19	47
Element name	Carbon	helium	potassium	silver
Element symbol	С	Не	K	Ag

3. Write the notation showing the symbol, atomic number and the mass number for each isotope below.

Example: 6 protons and 7 neutrons: ${}^{13}_{6}C$

- a. 9 protons and 10 neutrons (an isotope used n nuclear medicine) ${}^{19}_{9}F$
- b. 26 protons and 30 neutrons (the most stable isotope of this element) $\frac{56}{26}$ Fe
- c. 86 protons and 136 neutrons (the radioactive gas found in homes) $^{222}_{86}$ Rn
- 4. Complete the table below. Carbon is included as an example.

Element	carbon	calcium	nitrogen	chlorine	argon
Atomic Number	6	20	7	7	18
# Valence electrons	4	2	5	7	8