

Name \_\_\_\_\_

## Periodic Table and Atomic Structure

1. Consider this periodic table.

- What is the group number (include both the “Old” and “New” numbers) and group name indicated by the shading? **17 (or 7A or VIIA)**
- What elements make up this group? **F, Cl, Br, I, At, Ts (halogens)**
- 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	C	He	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:  $^{13}_6\text{C}$

- 9 protons and 10 neutrons (an isotope used in nuclear medicine)  $^{19}_9\text{F}$
- 26 protons and 30 neutrons (the most stable isotope of this element)  $^{56}_{26}\text{Fe}$
- 86 protons and 136 neutrons (the radioactive gas found in homes)  $^{222}_{86}\text{Rn}$

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