

Homework Key – Chemistry

Chapter 6: 6.1 – 6.3

Problems 1, 3, 5, 7, 11, 15, 19, 21, 25, 27

1. The noble gases were not discovered until 1894–98 (see Figure 4.7).
3. In Figure 6.1, Group IV corresponds to the oxide formula  $\text{GeO}_2$ , and germanium oxide,  $\text{GeO}_2$ , is an example.
5. After Moseley's discovery in 1913, the periodic law states that physical and chemical properties tend to repeat periodically when elements are arranged according to **increasing atomic number**.
7. Note that **Co** precedes **Ni** in the periodic table, even though the atomic mass of Co (58.93) is greater than Ni (58.69).

11. The term for the elements that belong to Groups IA through VIIIA is the **representative elements**.

15. The term for the two series of elements that belong to Ce–Lu and Th–Lr is the **inner transition series**.

19. The appearance of **B, Si, Ge, As, Sb, and Te** resembles that of metals, and these nonradioactive semimetals are referred to as metalloids.

21.	<u>Family</u>	<u>Group Number</u>
(a)	alkali metals	IA/1
(b)	alkaline earth metals	IIA/2
(c)	halogens	VIIA/17
(d)	noble gases	VIIIA/18

25.	<u>Element</u>	<u>Element</u>
(a)	Ge	(b) Na
(c)	I	(d) Pm

27.	<u>Element</u>	<u>Element</u>
(a)	Mg	(b) Br
(c)	Lu	(d) Th