Summer Review Sheet #5

The periodic table and oxidation states

Answers are provided on the second sheet. Please try to do the worksheet without referring to them, because you'll be expected to know this stuff the first day of school!

Which group of the periodic table is most likely described by questions 1-5?

1) These elements are very strong oxidizers. _____

2) These elements have a charge of +2 when forming ionic compounds.

_____

3) These elements are almost entirely unreactive. _____

4) These elements are radioactive. _____

5) These elements are all diatomic. _____

6) These elements are found in group 1 of the periodic table. _____

7) These elements are rare, have high densities, and are used for various industrial purposes.

_____

For problems 8-11, describe the oxidation state of each element when it forms ionic compounds:

8) oxygen _____

9) gallium _____

10) potassium _____

11) nitrogen _____

For problems 12-15, determine the number of valence electrons each element has:

12) sulfur _____

13) carbon _____

14) helium _____

15) hydrogen _____

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Which group of the periodic table is most likely described by questions 1-5?

1) These elements are very strong oxidizers. **halogens**

2) These elements have a charge of +2 when forming ionic compounds.

alkaline earth metals

3) These elements are almost entirely unreactive. **noble gases**

4) These elements are radioactive. **actinides**

5) These elements are all diatomic. **halogens**

6) These elements are found in group 1 of the periodic table. **alkali metals**

7) These elements are rare, have high densities, and are used for various industrial purposes.

lanthanides

For problems 8-11, describe the oxidation state of each element when it forms ionic compounds:

8) oxygen **-2**

9) gallium **+3**

10) potassium **+1**

11) nitrogen **-3**

For problems 12-15, determine the number of valence electrons each element has:

12) sulfur **6**

13) carbon **4**

14) helium **2**

15) hydrogen **1**