Name_____ Date_____ Hour____

Review – Periodicity Quiz

1) Who is credited for the organization of the periodic table?

Mendeleev and Moseley

2) Summarize the modern Periodic Law.

- Elements arranged by atomic number
- properties repeat

3) Where on the periodic table are the periods located?

rows ↔

4) Where on the periodic table are the families located?

columns ↕ ↳ same as groups

5) Where on the periodic table are the groups located?

columns ↕ ↳ same as families

6) Name each of the following families found on the periodic table.

IA: Alkali Metals

IIA: Alkaline Earth Metals

IIIA: Boron Group

IVA: Carbon Group

VA: Nitrogen Group

VIA: Oxygen Group

VIIA: Halogens

VIIIA: Noble Gases

7) Name a non-metal in group IVA: Carbon - C

8) Name a metal in group IVA: Tin - Sn or Lead - Pb

9) Summarize why elements in the same family have similar behaviors.

Same # of valence electrons

10) In each of the following pairs, circle the one that would have the larger radius. **Give a reason for your decision.**

a) Si or (Ge) Reason: More shells

b) (Se) or Br Reason: Br has more +, pulling shells in

c) O^{-2} or (I^-) Reason: More shells

d) Br or (Br^-) Reason: e^- added, more repulsion (like charges repel)

e) Rb^+ or (Br^-) Reason: e^- added, more repulsion

Rb^+ ↓ $37p^+$ Br^- ↓ $35p^+$

11) Indicate the column number to answer the following:

a) What family of elements is most likely to form +2 ions? Alkaline Earth Metals (IIA)

b) What family of elements is given the name the Carbon group? IVA

c) What family of elements is given the name the Alkali Metals? IA

d) What family of elements would react with fluorine to produce compounds with the formula "X"F_3? IIIA

+3 -3

12) Circle the most reactive element in each group. **Give a reason for your decision.**

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a) (Cs) Ba Tl Reason: only needs to lose 1 e^- (others 2 and 3) biggest, so valence e^- furthest away from nucleus

b) (At) Po Bi Reason: wants one more e^- (others 2 and 3) smallest, so outer shell closest to nucleus

c) Sr Ba (Ra) Reason: All want to lose 2 e^- Ra lose the easiest cuz biggest, valence e^- furthest away from nucleus