

name:

date:

Periodic Table Exam

1. ____ The elements known as the **alkali earth metals** are found in Group
a) 1 b) 2 c) 16 d) 17
2. ____ Which of the following elements has the greatest tendency to lose an electron?
a) Na b) Mg c) Al d) Si
3. ____ Which of the following elements has the greatest tendency to lose an electron?
a) Li b) Na c) K d) Rb
4. ____ As the elements in Group 15 are considered in order of increasing atomic number, which sequence of properties occurs?
a) nonmetal → metalloid → metal b) metalloid → metal → nonmetal
c) metal → metalloid → nonmetal d) metal → nonmetal → metalloid
5. ____ As atoms of elements in Group 13 are considered in order of increasing atomic number, the ionization energy
a) decreases b) increases c) remains the same d) is not known
6. ____ Which element is **more** reactive than calcium (Ca)?
a) potassium (K) b) magnesium (Mg) c) iron (Fe) d) Copper
7. ____ Which of the following elements has the **smallest** atomic radius?
a) nickel (Ni) b) cobalt (Co) c) calcium (Ca) d) potassium (K)
8. ____ Which of the following elements is the **most** metallic?
a) C b) Ge c) Si d) Sn
9. ____ Which element is classified as a metalloid (semimetal)?
a) S b) Al c) As d) Ba
10. ____ The chemical properties of the elements are periodic functions of their atomic
a) masses b) weights c) numbers d) radii
11. ____ The properties of silicon (Si) are characteristic of
a) a metal only b) a nonmetal only c) both metal and nonmetal d) neither metal or nonmetal
12. ____ Atoms that contain 7 **valence** electrons are classified as
a) metals b) halogens c) noble gases d) metalloid (semimetals)
13. Which element in Group 15 has the **most** metallic character? Just the symbol is enough. (1 point)
14. An atom of an element has 10 electrons in its inner shells, and 7 electrons in its outermost shell. In which **period** is this element located. (1 point)

15. a) What is the **name** of the group of elements that is generally considered to be non reactive? (1 point)

b) Why are these particular elements so non reactive? (2 points)

16. a) What does the atomic radius measure? (1 points)

b) Reading from top to bottom on the Periodic Table, what is the trend for atomic radius? (1 point)

c) Explain why this trend occurs. (2 points)

d) Reading from left to right, what is the trend for atomic radius? (1 point)

e) Explain why this trend occurs. (2 points)

17. a) What does ionization energy measure/tell you about an atom? (2 points)

b) Reading from top to bottom on the Periodic Table, what is the trend for ionization energy?
(1 point)

c) Explain why this trend occurs. (2 points)

18. Potassium is so reactive that it occurs in nature only combined with another element. Explain why it is so reactive. (2 points)