



## The Periodic Table of Elements and Periodic Trends

*Answer Key*

1. D

**Explanation:** Dobereiner's triad is a set of elements wherein the arithmetic mean of the two elements with the smallest and largest atomic mass is approximately equal to the atomic mass of the intermediate element. Among the choices, only D satisfies this criterion  $(40.1 + 137.3)/2 = 88.5$ , which is close to the atomic mass of Sr.

2. A

**Explanation:** N is a pnictogen, the rest are chalcogens.

3. F

**Explanation:** (a) Only boron is considered metalloid; (b) since boron is on the left side of oxygen, it is larger than oxygen; (c) oxygen is closer to fluorine, hence oxygen is actually more electronegative; (d) between boron and oxygen, oxygen has higher ionization energy. Therefore, oxygen requires more energy to eject an electron from its valence shell.

4. A

**Explanation:** Based on the periodic trend, Na has the lowest ionization energy. Therefore, among the elements listed, it ejects its valence electron most readily.

5. E

**Explanation:** Elements with the most positive electron affinity belong to the halogen group. Therefore, elements with the most negative electron affinity are those farthest from the halogen group, which, in this case, is Na.



To get more Chemistry review materials, visit  
[https://filipiknow.net/chemistry-re  
view/](https://filipiknow.net/chemistry-review/)

*To God be the  
glory!*