

Write the shorthand (noble gas) electron configurations for the following 10 elements and use the configuration to determine how many valence electrons each element has. These are elements that you CANNOT use the group numbers to figure out the number of valence electrons, you MUST write an electron configuration.

Here is an example of the element Nh (Nihonium):

$1s^2 2s^2 2p^6 3s^2 3p^6 4s^2 3d^{10} 4p^6 5s^2 4d^{10} 5p^6 6s^2 4f^{14} 5d^{10} 6p^6$  **7s<sup>2</sup> 5f<sup>14</sup> 6d<sup>10</sup> 7p<sup>1</sup>**  
[Rn] **7s<sup>2</sup> 5f<sup>14</sup> 6d<sup>10</sup> 7p<sup>1</sup>**

1. Find the largest energy levels (big numbers), in this case it is **7**
2. Add the electrons together from each to get the valence electrons: **7s<sup>2</sup> + 7p<sup>1</sup> = (2+1) = 3**
3. Notice that shorthand is easier to write

Noble Gas Configuration (use <input type="button" value="[]"/> )	Number of Valence Electrons
1. Co	
2. Mo	
3. Nd	
4. Cs	
5. Pt	
6. Ag	
7. Cr	
8. Se	
9. Na	
10. Ds	

