

## Chapter 7

- 11) a) force of the nucleus on electrons  
b)  $L \rightarrow R$  nuclear effective charge increases across a period because the number of protons increases in the nucleus
- 23) a) decrease  
b) increase  
c) F, S, P, As
- 24) a) electrons in a period are in same shell, electrons in a group are in different shells  
b) Si, Al, Ge, Ga
- 25) a) Be, Mg, Ca  
b) Br, Ge, Ga  
c) Si, Al, Tl
- 27) a) losing the valence electrons makes ~~the~~ one less shell for electrons to be in  
b) more  $e^-$  means the nuclear effective charge can't pull them all in as close  
c) more shells makes valence electrons be further from nucleus
- 30) rust = Ca  
blue =  $Ca^{2+}$   
red =  $Mg^{2+}$

## Chapter 7

- 35) a) Cl, S, K  
b) K<sup>+</sup>, Cl<sup>-</sup>, S<sup>2-</sup>

less protons won't be able to pull valence e<sup>-</sup> in

- 45) a) Ar                      d) S  
b) Be                        e) Te  
c) Co

- 46) a) Ti  
b) Cu  
c) Cl  
d) Sb

- 60) a) Li  
b) Li  
c) Sn  
d) Al

- 69) a) Na: 1s<sup>2</sup> 2s<sup>2</sup> 2p<sup>6</sup> 3s<sup>1</sup>  
Mg: 1s<sup>2</sup> 2s<sup>2</sup> 2p<sup>6</sup> 3s<sup>2</sup>  
b) Na = Na<sup>+</sup>  
Mg = Mg<sup>+2</sup>  
c) Mg > Na  
e) Na > Mg