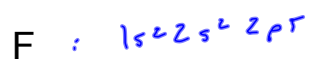


Sc  $[\text{Ar}] 4s^2 3d^1$ Zn  $[\text{Ar}] 4s^2 3d^{10}$ As  $[\text{Ar}] 4s^2 3d^{10} 4p^3$ Kr  $[\text{Ar}] 4s^2 3d^{10} 4p^6$ Zr  $[\text{Kr}] 5s^2 4d^2$ Mo  $[\text{Kr}] 5s^1 4d^5$ Au  $[\text{Xe}] 6s^1 4f^{14} 5d^{10}$ 

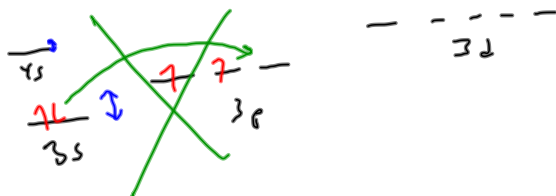
Oct 21-6:44 AM

La :  $[\text{Xe}] 6s^2 5d^1$ Hf :  $[\text{Xe}] 6s^2 4f^{14} 5d^2$ Pb  $[\text{Xe}] 6s^2 4f^{14} 5d^{10} 6p^2$ Sg :  $[\text{Rn}] 7s^1 5f^{14} 6d^5$ 

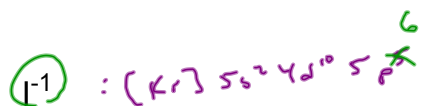
Oct 21-6:44 AM



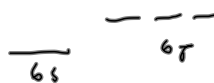
Oct 21-6:44 AM



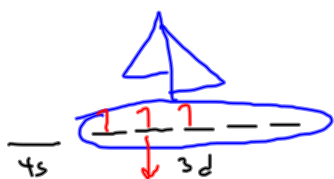
Oct 21-8:01 AM



take from highest numbered orbital last



Oct 21-6:44 AM



Oct 21-8:08 AM

#1

$\lambda = ?$  (nm)

$1.7 \times 10^{-2} \text{ g}$  @  $45 \text{ m/s}$

de Broglie

$$\lambda = \frac{h}{p} = \frac{6.6262 \times 10^{-34} \text{ J}\cdot\text{s}}{m \cdot v}$$

$\uparrow$  kg                       $\uparrow$  m/s  
 $\uparrow$  45 m/s

$1.7 \times 10^{-2} \text{ g} \times \frac{1 \text{ kg}}{1000 \text{ g}} =$

Oct 21-8:15 AM

#2

$n=6$      $l=4$      $m_l = -2$

type = ?

$l=0$     s  
       1    p  
       2    d  
       3    f  
       4    g  
       l    h

$\# \text{ orbitals} = n^2$   
                   36

$\# \text{ sub shells (types)}$   
                   6

Oct 21-8:19 AM