

$C = f \lambda$   
 $E = hf$   
 $f = \frac{h}{mv}$   
 $3 \times 10^8 \frac{m}{sec}$   
 $6.63 \times 10^{-34} \frac{J \cdot sec}{\text{mass in kg}}$   
 $h = 7mv$

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(615)  $C = f \lambda$  Find  $\frac{1}{sec}$  freq

|                               |                    |                 |                                    |
|-------------------------------|--------------------|-----------------|------------------------------------|
| $3 \times 10^8 \frac{m}{sec}$ | $10^6 \frac{m}{m}$ | $1 \frac{m}{m}$ | $= 3 \times 10^{13} \frac{1}{sec}$ |
|-------------------------------|--------------------|-----------------|------------------------------------|

Oct 25-7:44 AM

(615b)  $5.5 \times 10^{14} \frac{1}{sec}$  Find  $\lambda$  (m)

$C = 3 \times 10^8 \frac{m}{sec}$

$C = f \lambda$   
 $3 \times 10^8 = 5.5 \times 10^{14} \lambda$

|                               |                                    |     |
|-------------------------------|------------------------------------|-----|
| $3 \times 10^8 \frac{m}{sec}$ | $5.5 \times 10^{14} \frac{1}{sec}$ | $=$ |
|-------------------------------|------------------------------------|-----|

Oct 25-7:59 AM

(615c)  $400nm \rightarrow 750nm$   
 Blue RED  
 $4 \times 10^{-7} m$   $7.5 \times 10^{-7} m$  \*

@  $10 \mu m = 10^5 m$  IR  
 iNo!

Oct 25-8:03 AM

(615d)  $500nm \rightarrow \text{---} m$

|                               |                         |     |
|-------------------------------|-------------------------|-----|
| $3 \times 10^8 \frac{m}{sec}$ | $50 \times 10^{-6} sec$ | $=$ |
|-------------------------------|-------------------------|-----|

\*  $450nm$   
 $450 \times 10^{-9} m$

Oct 25-8:06 AM

(617)  $532nm$  Find  $f$   $\frac{1}{sec}$

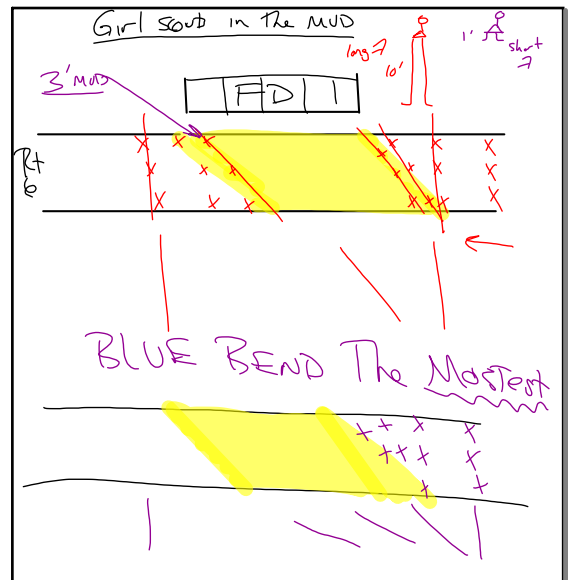
$532 \times 10^{-9} m$

$C = f \lambda$   
 $f = \frac{C}{\lambda}$

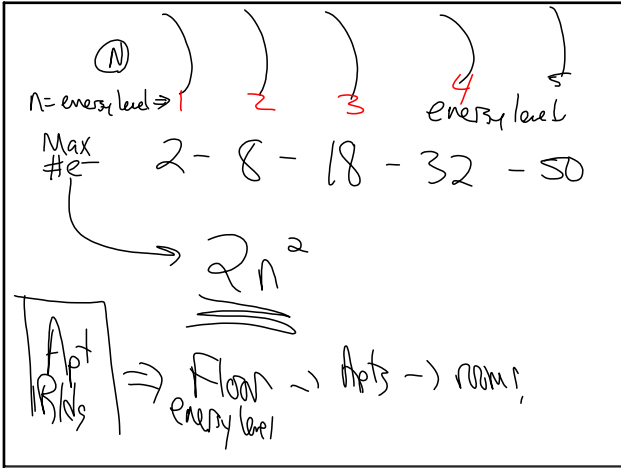
|                               |                        |     |
|-------------------------------|------------------------|-----|
| $3 \times 10^8 \frac{m}{sec}$ | $532 \times 10^{-9} m$ | $=$ |
|-------------------------------|------------------------|-----|

$5.64 \times 10^{14} \frac{1}{sec}$

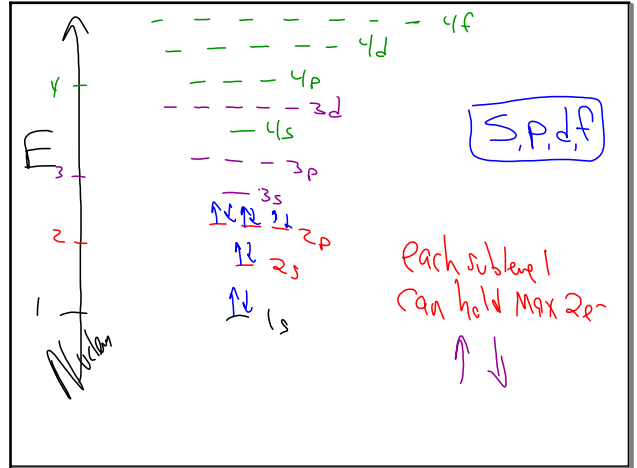
Oct 25-8:09 AM



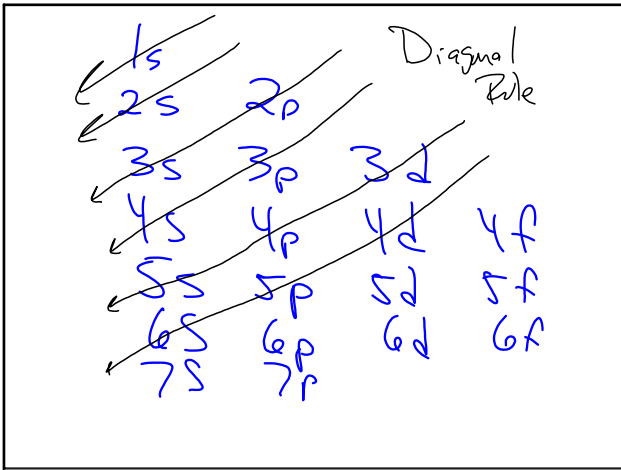
Oct 25-8:41 AM



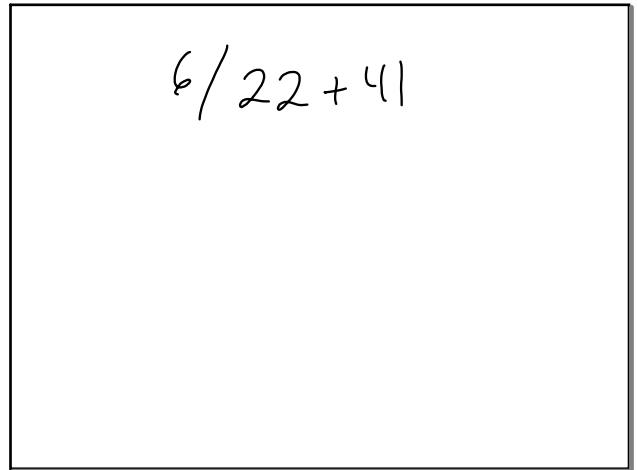
Oct 25-8:56 AM



Oct 25-9:00 AM



Oct 25-9:14 AM



Oct 25-9:16 AM