6.22b 0.1 mole of photons = ___ J

@ $f = 5.09 * 10^{14}\ sec^{-1}$

$E = hf$

$= (6.63 \times 10^{-34})(5.09 \times 10^{14})$

$= 3.37 \times 10^{-19}\ J$ $* \frac{6 \times 10^{23}\ photons}{1\ mole} * 0.1 =$

$20220\ J = 20.2\ kJ$

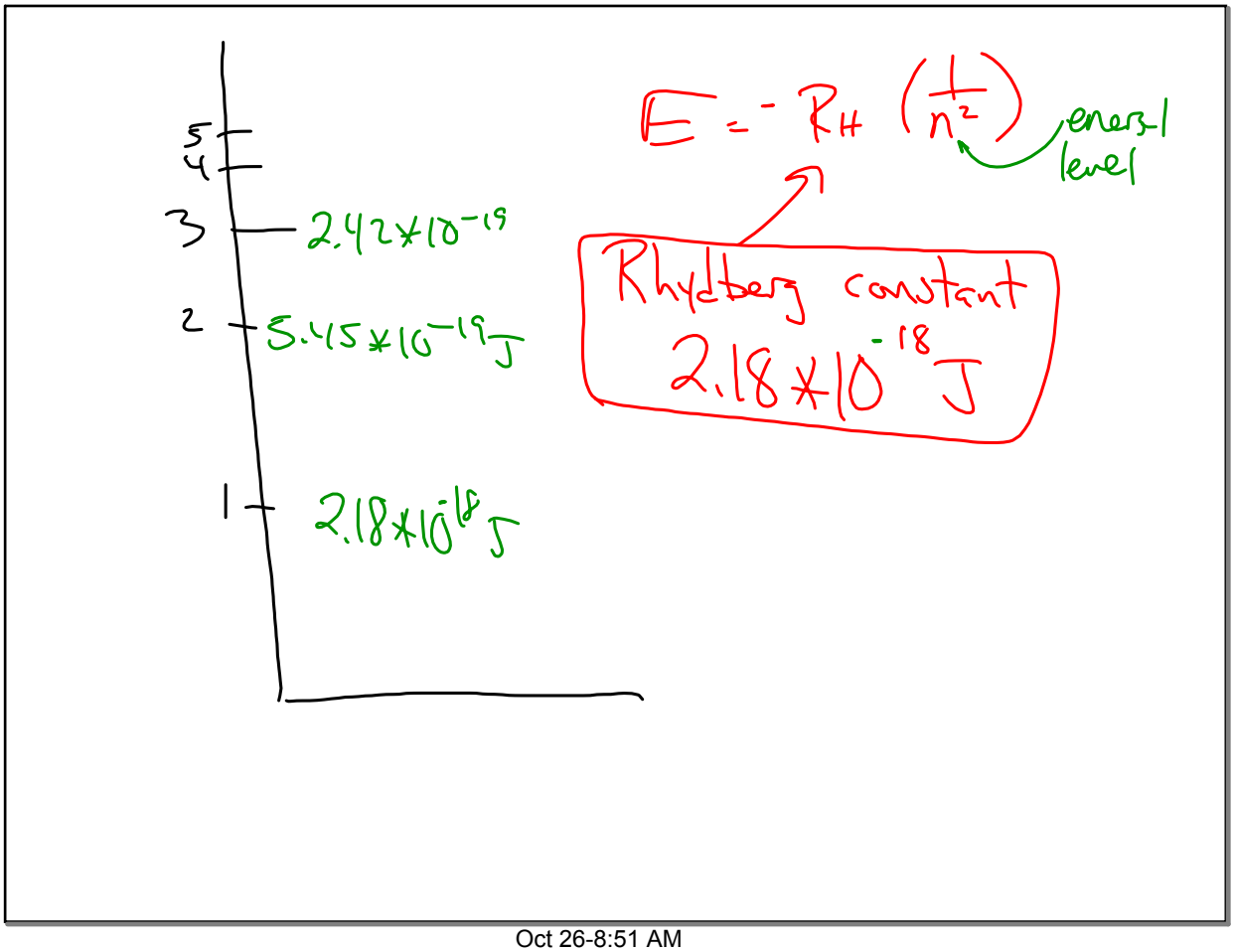
Oct 26-8:36 AM

6.41 85 kg $\frac{50\ km}{hr}$

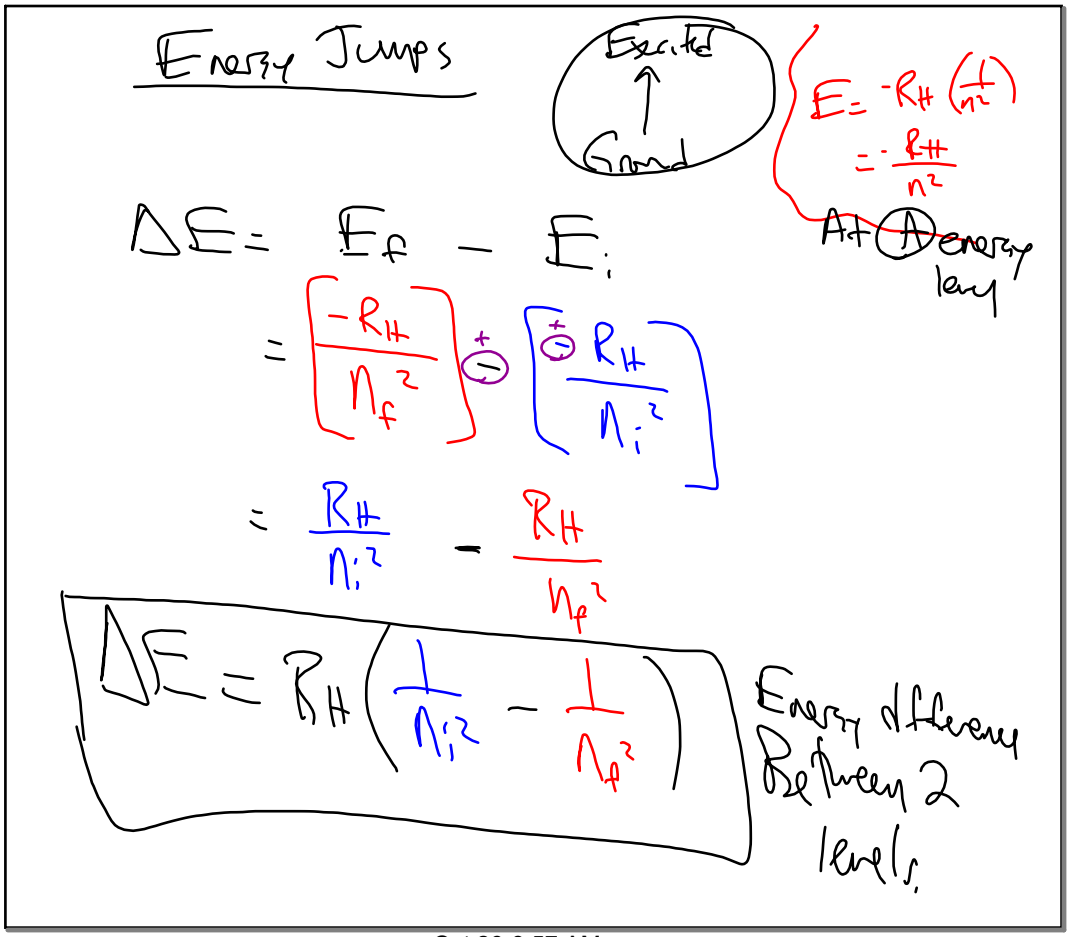
$\frac{1}{\lambda} = \frac{h}{mv}$

kg $\frac{m}{sec}$

Oct 26-8:49 AM



Oct 26-8:51 AM



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$$\Delta E = R_H \left(\frac{1}{n_i^2} - \frac{1}{n_f^2}\right) = hf$$

$5 \rightarrow 2$

$\Delta E = ?$

Color of light that is released

$E = 4.578 \times 10^{-19}\ J$

$E = hf$

$f = \frac{E}{h}$

$f = 6.9 \times 10^{14}\ sec^{-1}$

$c = f\lambda$

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

$\lambda = 4.34 \times 10^{-7}\ M$

$434\ nm$

Blue

Oct 26-9:02 AM

$$E = hf$$

$$E = \frac{hc}{\lambda}$$

$$\lambda = \frac{hc}{E} \quad \frac{(6.63 \times 10^{-34})(3 \times 10^{8})}{4.578 \times 10^{-19}}$$

Oct 26-9:11 AM

STABLE → ① 8 valence e⁻
→ ② Full valence shell.

Mostly stable (OK-ish stable)

Sublevel is half fill

s^2 ↑↓ s^1 ↑

p^6 — — — p^3 ↑ ↑ ↑

d^{10} — — — — — d^5 ↑ ↑ ↑ ↑ ↑

Oct 26-9:13 AM

LAB due

6/ 36+ 44

Oct 26-9:17 AM