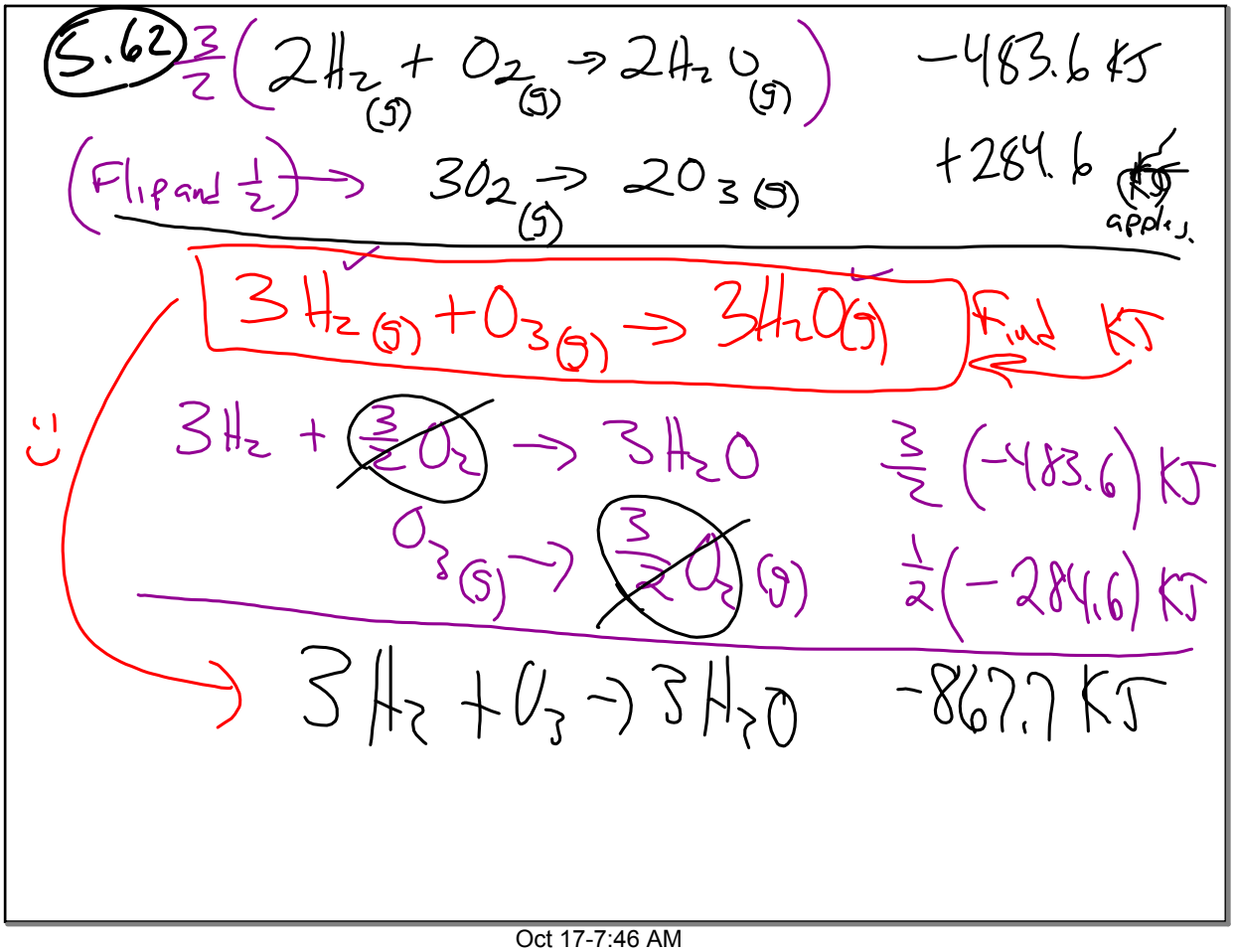
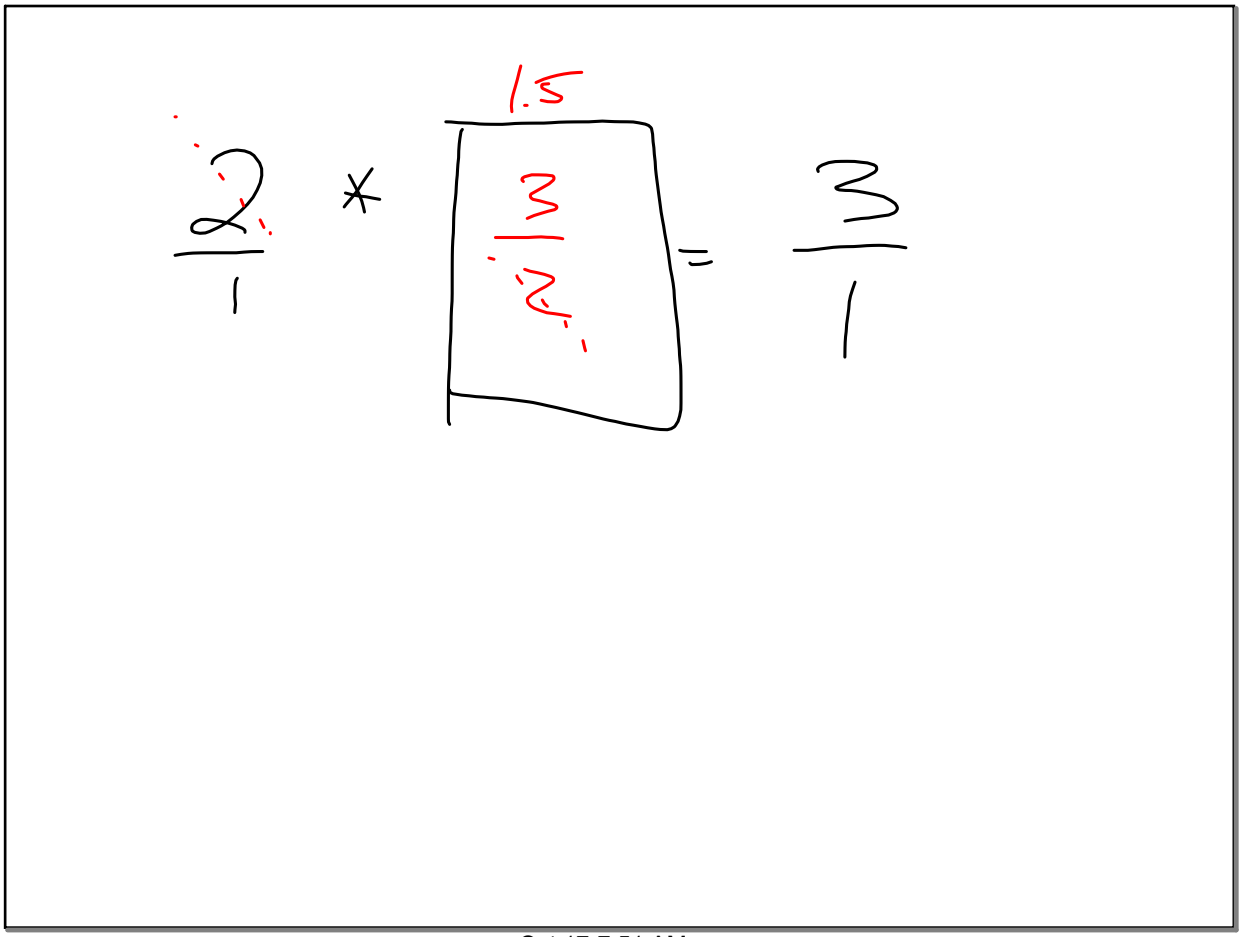
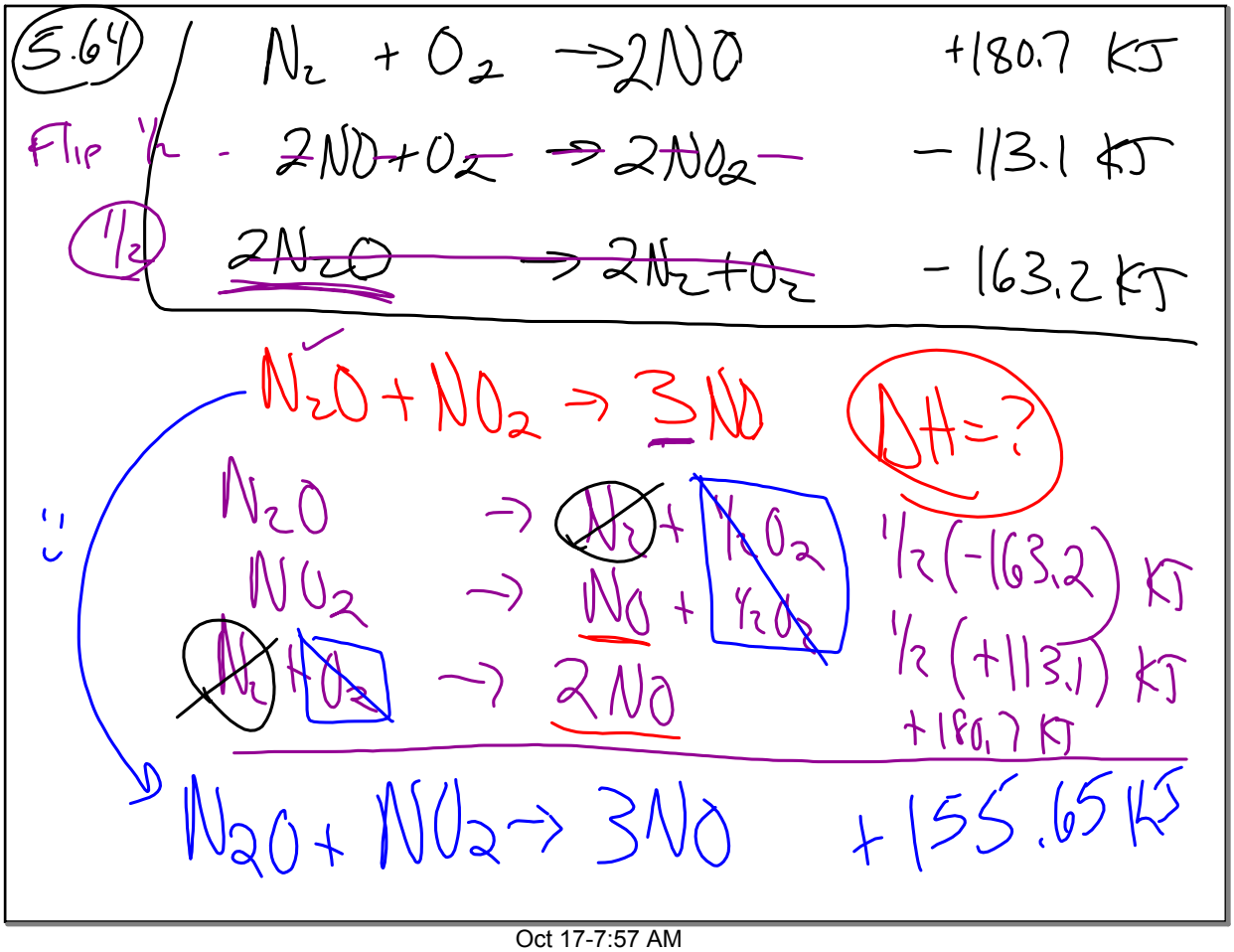


Oct 17-7:46 AM



Oct 17-7:51 AM



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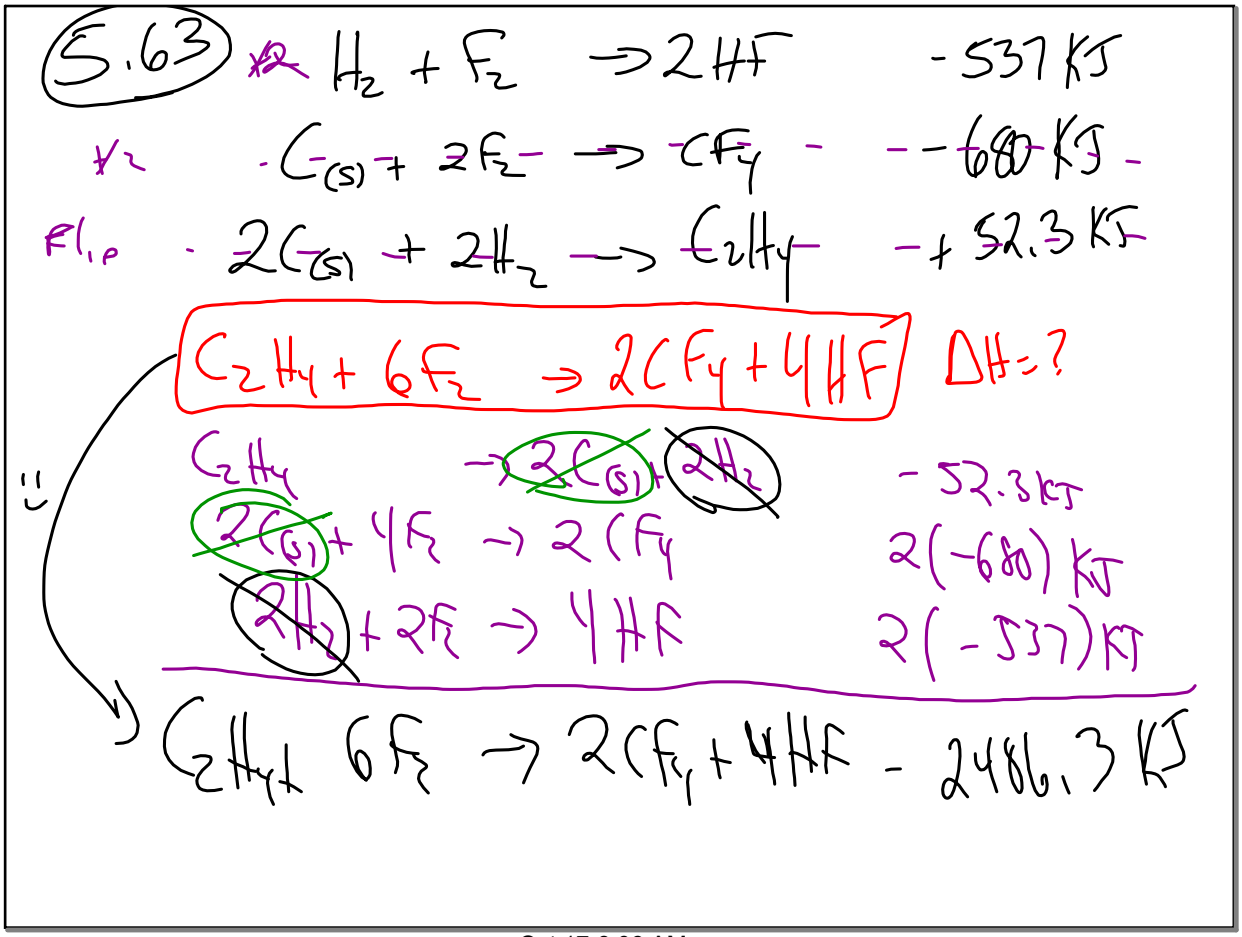
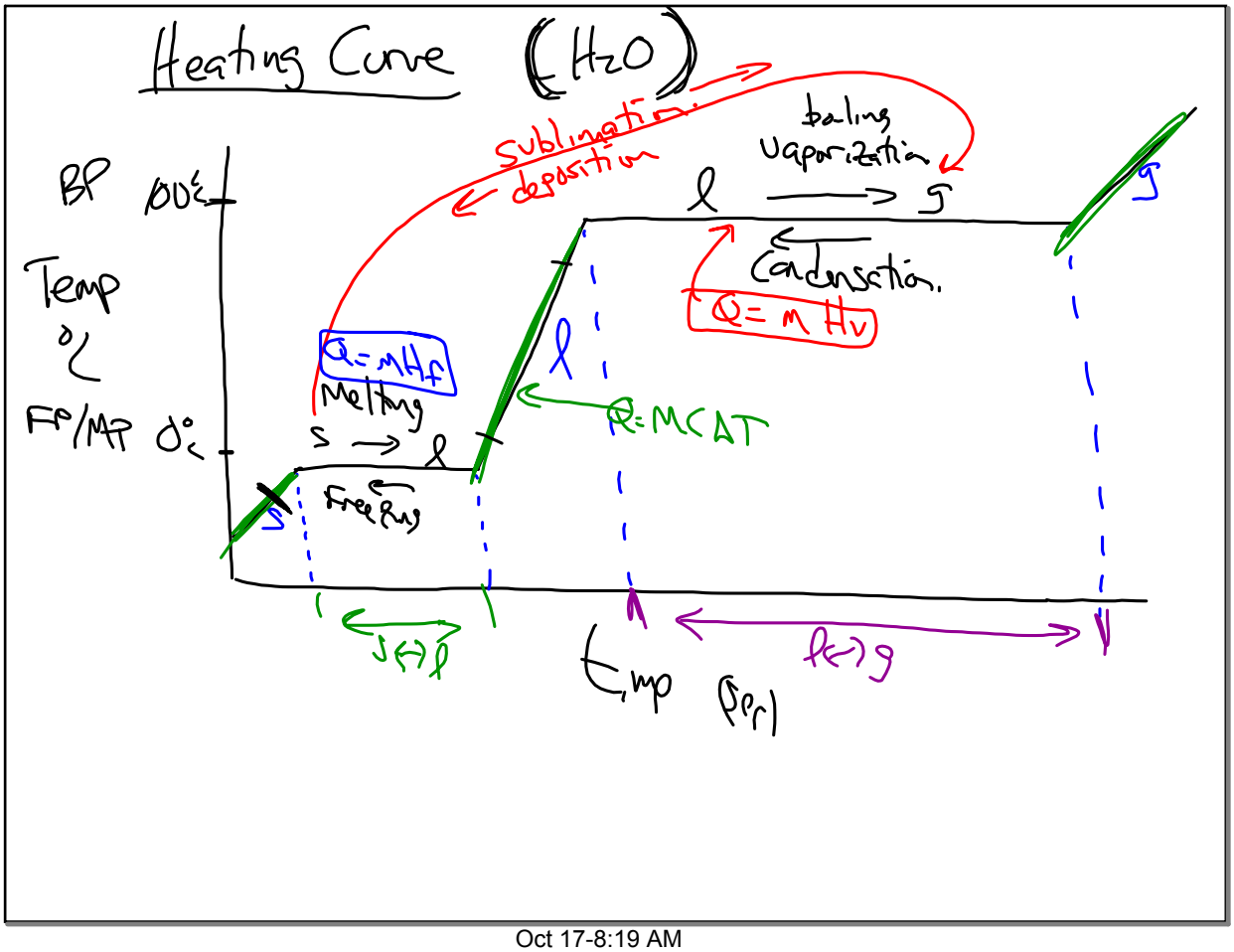
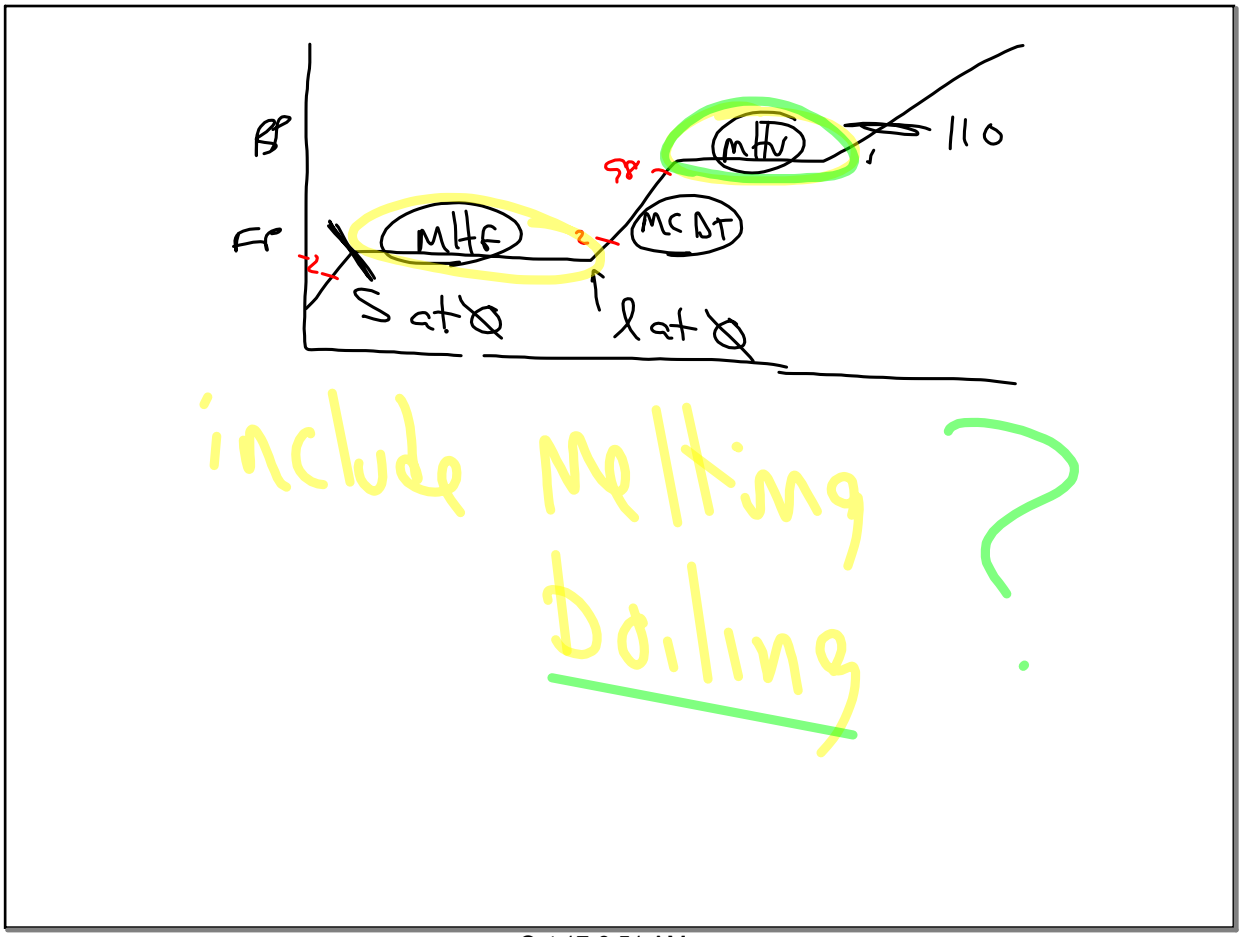


Oct 17-8:06 AM



Oct 17-8:19 AM



Oct 17-8:51 AM

Enthalpy of formation ΔH_f

Amt E needed to form the substance.

element in elemental state $\Delta H_f = 0$

Oct 17-8:55 AM

$2H_{2(g)} + O_{2(g)} \rightarrow 2H_2O_{(\ell)}$

$\Delta H_{rxn} = n\Sigma \Delta H_{prod} - n\Sigma \Delta H_{react.}$

$= 2(\Delta H\ H_2O_{(\ell)}) - [2(\Delta H\ H_{2(g)}) + (\Delta H\ O_{2(g)})]$

$= 2(285.83\ kJ) - [2(0) + (0)]$

$= 571.66\ kJ$

Oct 17-9:02 AM

Find ΔH combustion of C_2H_5OH.

$$C_2H_5OH_{(l)} + 3O_{2(g)} \rightarrow 2CO_{2(g)} + 3H_2O_{(l)}$$

$$\Delta H_{rxn} = \left[2(\Delta H\ (O_2)) + 3(\Delta H\ H_2O)\right] - \left[\left(\Delta H_{C_2H_5OH}\right) + \left(3\Delta H_{O_2}\right)\right]$$

$$\left[2(-393.5) + 3(-285.83)\right] + \left[+277.7 + 3(0)\right]$$

$$-1366.7\ kJ$$

Oct 17-9:05 AM