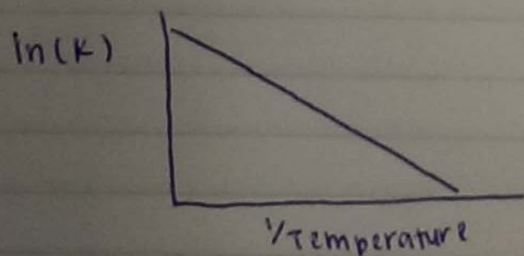
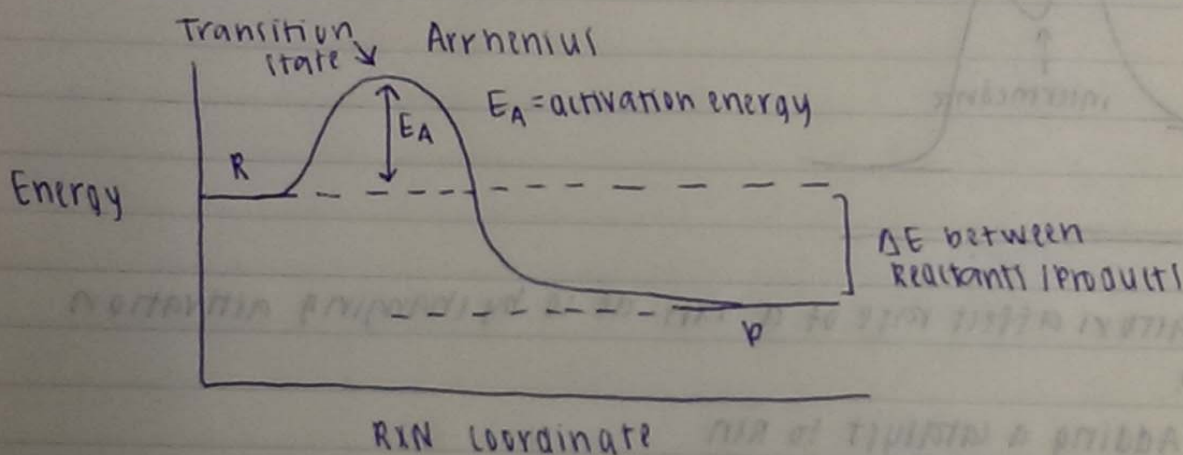


$$\text{Rate} = k[A][B]^2$$

* C and F not included because intermediates

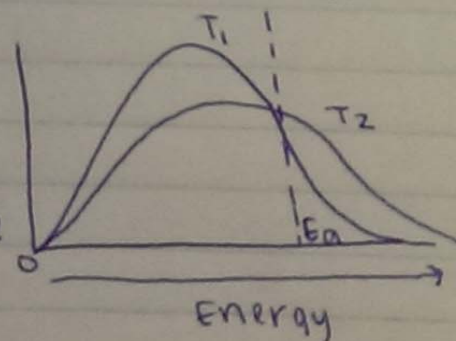
→ What factors affect speed of rxn?

- concentration / amount (as long as not ~~at~~ zero order)
- medium
- catalysts
- Temperature (increasing temperature, causes rate of rxn to increase)



→ @ a given temperature, molecules have a distribution of energies

↳ if you increase temp the distribution flattens.



→ The rate constant is a function of temperature

- higher the temperature the more molecules that have enough energy to make it over the barrier.

$$k = A e^{-E_a/RT}$$

← kelvin
↑ gas constant
8.314 J/mol

preexponential factor

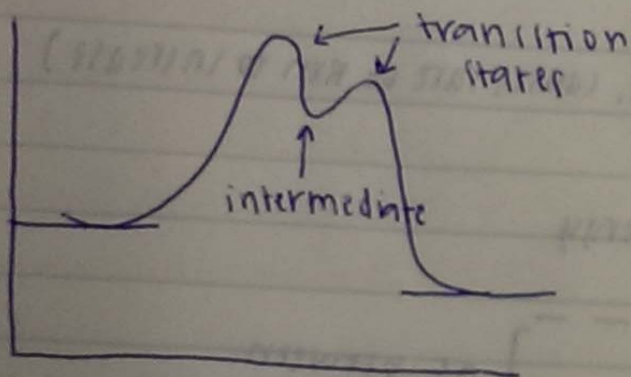
(rate @ infinite temp.)

What is the activation energy for this rxn?

$$\text{slope} = -\frac{E_a}{R} \quad R = 8.314 \quad = 1 \times 10^5 E_a$$

→ Higher temperatures = more molecules have sufficient energy to get over the barrier

- more molecules have collisions



→ Which factors affect rate of a rxn do so by changing activation energy?

- Adding a catalyst to rxn
↑ changes but changes back

