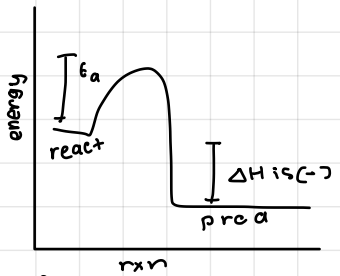
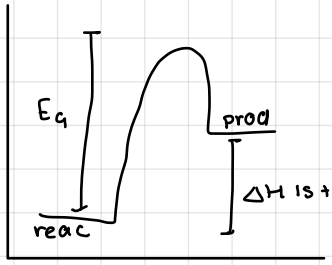
1) ENERGY DIAGRAM

EXOTHERMIC



forming bonds of the products

ENDOTHERMIC



breaking bonds of reactants

2) KINETIC ENERGY

kinetic energy: energy due to motion of the object and depends on the mass of the object & its velocity

at the same temp: all molecules have same K.E.

↑ MM ⇒ ↓ V

$K.E. = \frac{1}{2} mv^2$ (mass: kg; velocity: m/s)

amount of K.E. is determined by how fast it's moving

K.E. continues to flow until both objects stop changing (thermal equil.)

heat flows from hot → cold

3) TEMP

temp: measure of avg K.E

reflects random motion of particles in a substance

4) HEAT

q/Q has [illegible]

ΔH has sign: + = endo − = exo

thermal equilibrium: two objects/substances reach the same temp and therefore don't exchange heat energy

heat transfers from hot → cold until thermal eq. is reached

atoms of high temp slow down (decin K.E.)

atoms of low temp speed up (inc in K.E.)

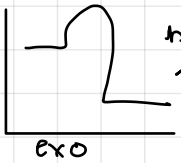
5) SURROUNDINGS / SYSTEMS

system: part of the chem rxn

surrounding: outside system (us)

heat flows into system

↓ surrounding temp



heat flows out of system

↑ surrounding temp