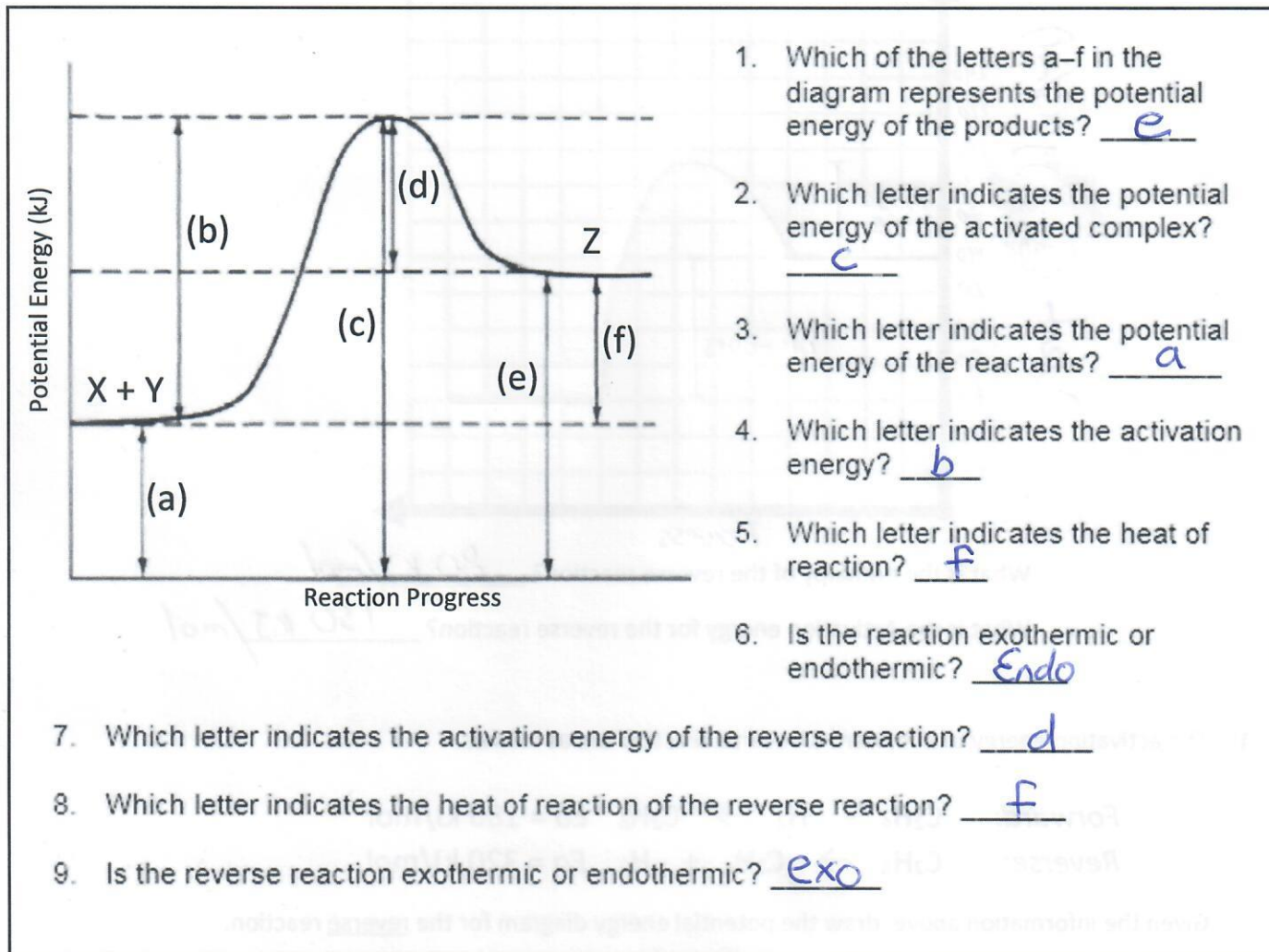


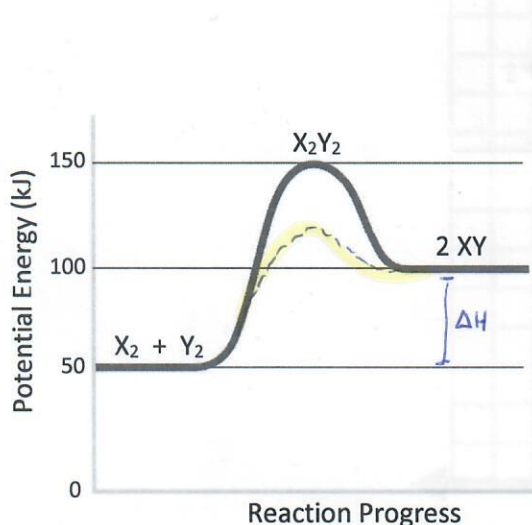
Energy Diagrams Practice:

name: SOLUTIONS

1)

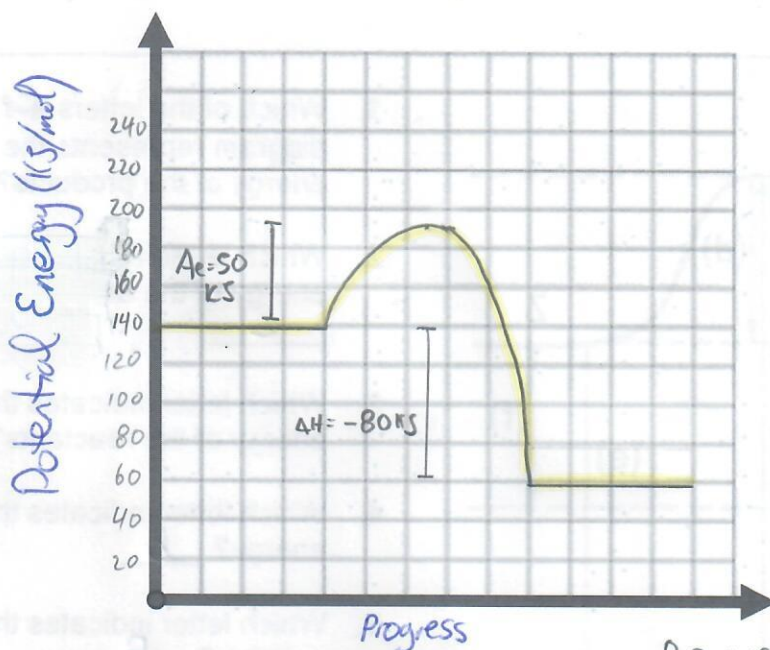


2)



- a) Is the overall reaction Endo or Exo Endo
- b) What is the activation energy for the forward reaction 100 KJ
- c) What is the activation energy for the reverse reaction 50 KJ
- d) What is the enthalpy for the forward reaction 100 KJ
- e) What is the enthalpy for the reverse reaction -100 KJ
- f) Is the reverse reaction Endo or Exo Exo
- g) Which species is the activated complex X₂Y₂
- h) Use a dotted line (on the diagram) to draw this reaction with a catalyst
- i) Which reaction occurs fastest, the forward or reverse? Why?
Reverse

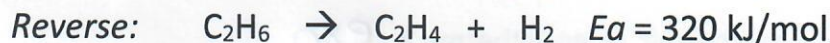
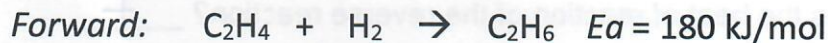
- 3) In the space provided draw a potential energy diagram for a reaction in which $\Delta H = -80 \text{ kJ/mol}$ and the $E_a = 50 \text{ kJ/mol}$. Label the axes, activation energy, ΔH , site of the activation complex, reactants, and products. (draw to scale)



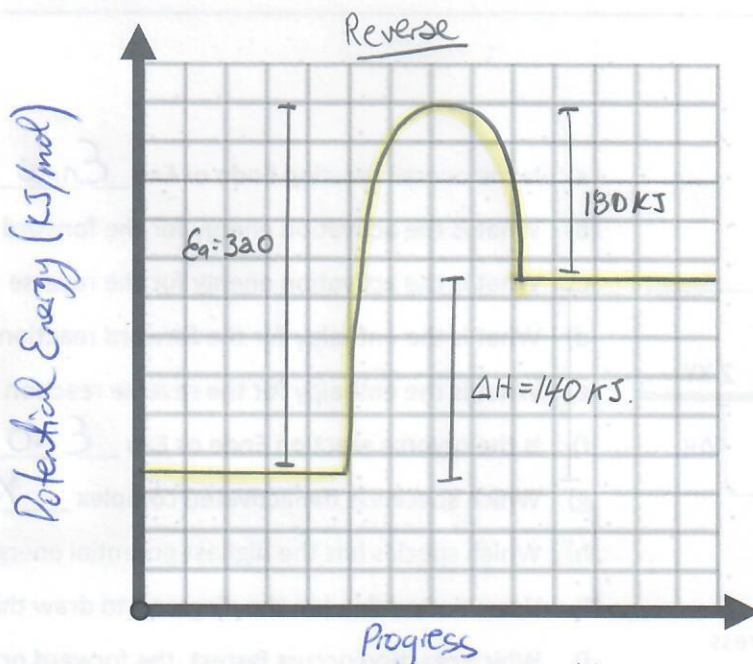
What is the enthalpy of the reverse reaction? 80 kJ/mol

What is the Activation energy for the reverse reaction? 130 kJ/mol

- 4) The activation energy of a forward & reverse reaction are as follows:



Given the information above, draw the potential energy diagram for the reverse reaction.



What is the enthalpy change (ΔH) for the reverse reaction. 140 kJ/mol

What is the enthalpy change (ΔH) for the forward reaction. -140 kJ/mol