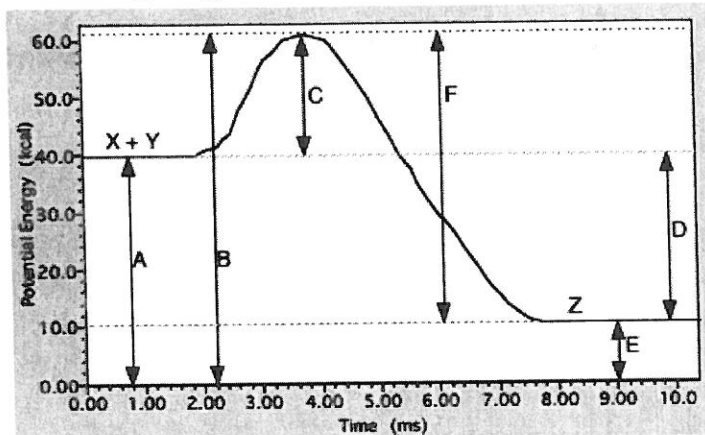


Enthalpy Graph Worksheet

Potential Energy Diagrams

Graph 1: Use the potential energy diagram for the reaction $X + Y \rightarrow Z$ to complete the chart below.



| Letter | Term | Description |
|--------|------|-------------|
| A | | |
| B | | |
| C | | |
| D | | |
| E | | |

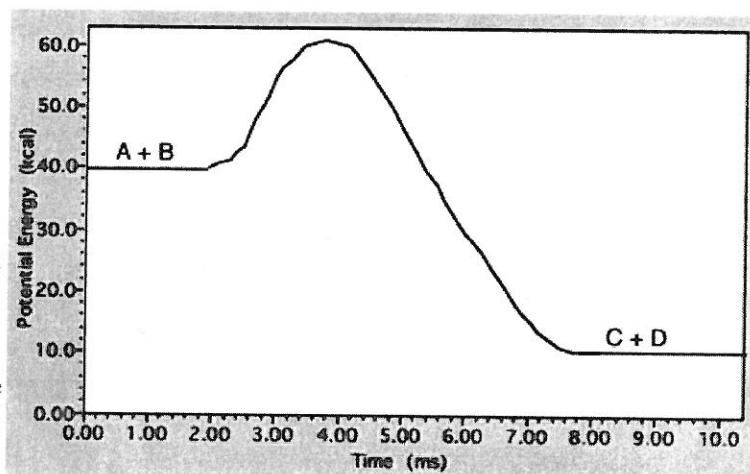
Graph 2

1. Draw a potential energy diagram for an endothermic reaction.
2. Label your drawing with the following letters:
 A=PE of products
 B=PE of reactants
 C=PE of the activated complex
 D=Energy of activation
 E=Heat of reaction

ENDOTHERMIC

Graph 3: Use the potential energy diagram for the reaction $A + B \rightarrow C + D$ to answer the following questions.

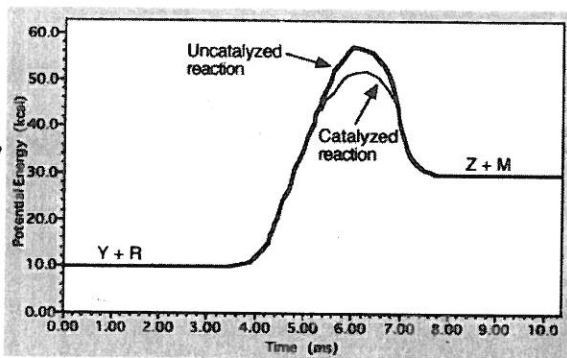
1. Is the reaction exothermic or endothermic?
2. What is the value of ΔH ?
3. What is the value of the activation energy of the reaction?
4. What is the potential energy of the products?



5. What is the potential energy of the activated complex?

Graph 4: Use the potential energy diagram for the reaction $Y + R \rightarrow Z + M$ to answer the following questions.

1. Is the reaction exothermic or endothermic?
2. What is the value of the activation energy of the uncatalyzed reaction?
3. What is the value of the activation energy of the catalyzed reaction?
4. What is the potential energy of the activated complex of the catalyzed reaction?



5. How does the ΔH for the catalyzed reaction compare to ΔH for the uncatalyzed reaction?