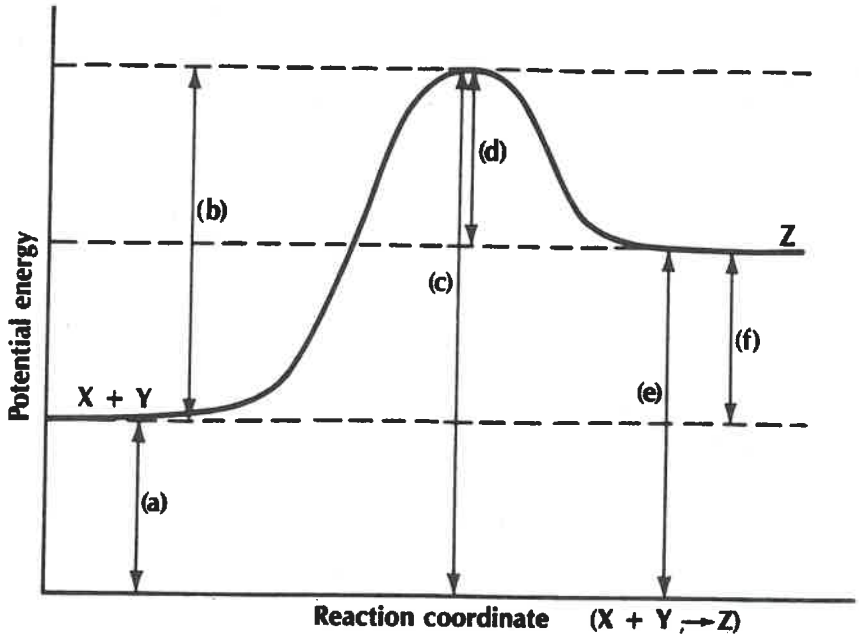
Name _____ Class _____ Date _____

Potential Energy Diagrams

Answer the questions by referring to the diagram of the potential energy of a reaction.



1. Which of the letters (a)–(f) in the diagram represents the potential energy of the products? **1.** _____

2. Which letter indicates the potential energy of the activated complex? **2.** _____

3. Which letter indicates the potential energy of the reactants? **3.** _____

4. Which letter indicates the activation energy? **4.** _____

5. Which letter indicates the heat of reaction? **5.** _____

6. Is the reaction exothermic or endothermic? **6.** _____

7. Which letter indicates the activation energy of the reverse reaction? **7.** _____

8. Which letter indicates the heat of reaction of the reverse reaction? **8.** _____

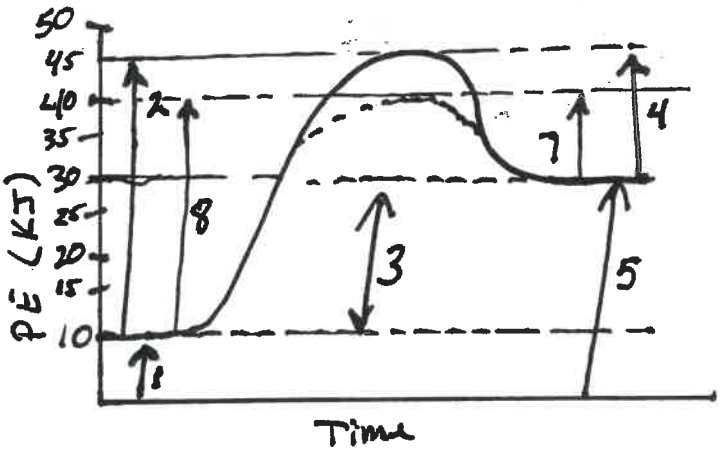
9. Is the reverse reaction exothermic or endothermic? **9.** _____

10. **a.** If a catalyst were added, which lettered quantities, if any, would change? **10a.** _____

    b. Would the activation energy be increased, decreased, or remain unchanged? **b.** _____

    c. Would the heat of reaction be increased, decreased, or remain unchanged? **c.** _____

NAME: ENERGY DIAGRAMS PERIOD:



1. Is the forward reaction Exothermic or Endothermic?

2. What number represents the region on the graph known as ΔH?

3. What number represents the activation energy of the uncatalyzed forward reaction?

4. What number represents the potential energy of the reactants?

5. What number represents the potential energy of the products?

6. The value of the heat of reaction is _____ kJ.

7. What number represents the activation energy of the catalyzed reverse reaction?

8. ΔH for the forward reaction as compared to ΔH for the reverse reaction is

   a. greater
   b. less
   c. equal in value and equal in sign
   d. equal in value but opposite in sign
   e. impossible to determine

9. Which variable is affected by a catalyst?

   a. PE of reactants
   b. PE of products
   c. ΔH
   d. Activation energy

10. ~~Using a dashed line, draw in the effect of a~~ find the effect of the catalyst and label it with the number 10

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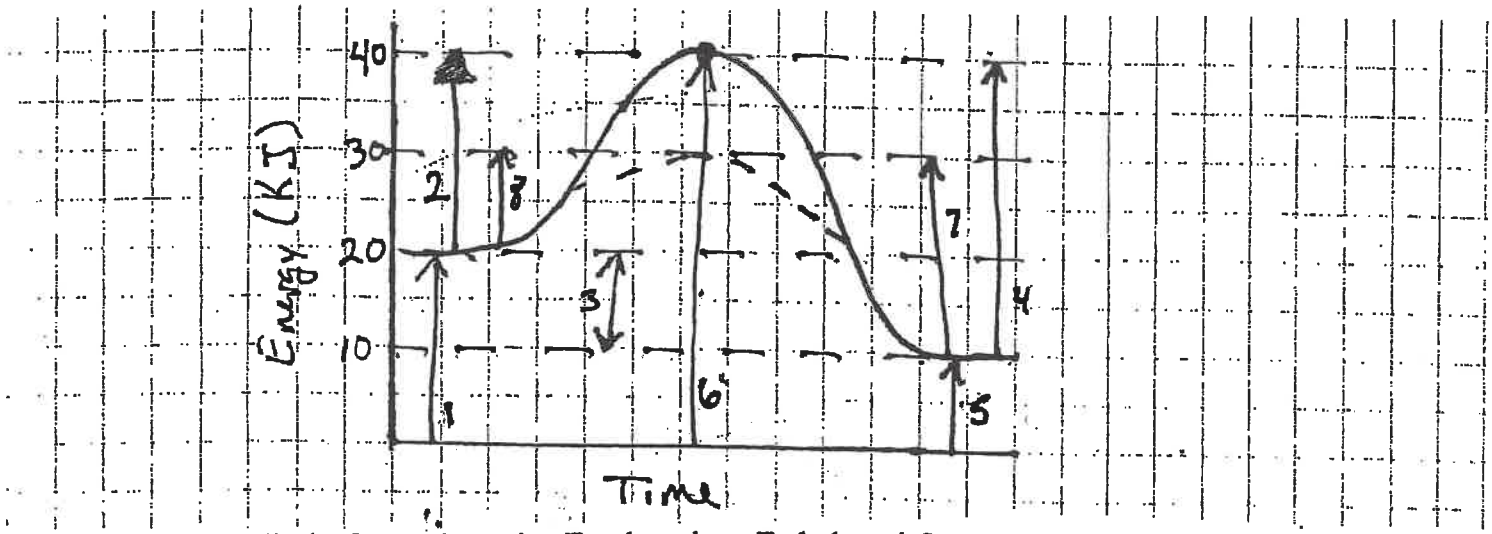

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9. Which variable is affected by a catalyst?

   a. PE of reactants
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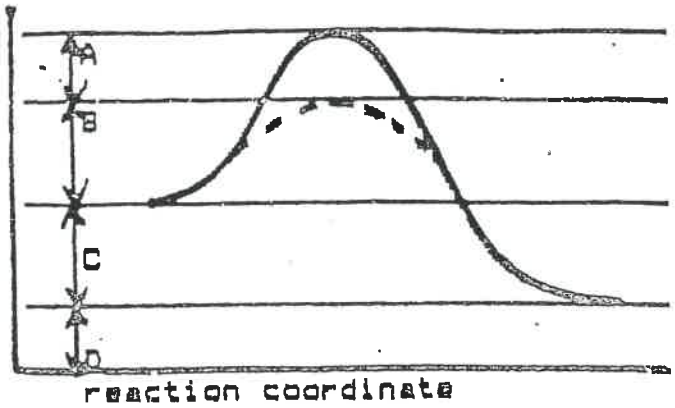
   c. ΔH
   d. Activation energy

10. Write down number 5, multiply it by 100, divide it by 100, subtract the month you were born, then add the month you were born. Write down your final answer.

REGENTS CHEMISTRY
KINETICS WORKSHEET

NAME _____
DATE _____

USE THE FOLLOWING DIAGRAM TO ANSWER THE QUESTIONS.



1. The forward reaction is (exothermic, endothermic).

2. The heat of reaction is represented by (A, B, C, D).

3. The activation energy for the uncatalyzed forward reaction is (A, B, C, D).

4. The activation energy for the catalyzed forward reaction is (A, B, C, D).

5. The potential energy of the reactants is _____.

6. The potential energy of the products is _____.

7. Compared to the potential energy of the reactants, the potential energy of the products is (more, less, the same, impossible to determine).

8. The activation energy of the uncatalyzed reverse reaction is _____.

9. The activation energy for the catalyzed reverse reaction is _____.

10. ΔH for the forward reaction as compared to ΔH for the reverse reaction is (greater, less, the same value but of opposite sign, impossible to determine).

11. Which variables are affected by a catalyst? (ΔH, potential energy of reactants, potential energy of products, activation energy).