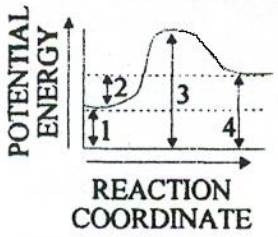
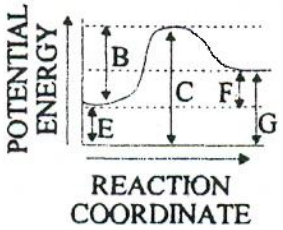
PE DIAGRAM 1 HW

13. The potential energy diagram shown below represents the reaction: $R + S + energy \rightarrow T$.



Which numbered interval represents the potential energy of the product T?
(1) 1 (2) 2 (3) 3 (4) 4

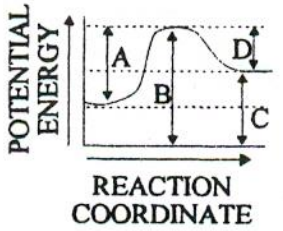
Base your answers to Questions 14 and 15 on the potential energy diagram of a chemical reaction shown below:



14. Which interval represents the heat of reaction?
(1) E (2) F (3) C (4) G

15. Interval B represents the
(1) potential energy of the products
(2) potential energy of the reactants
(3) activation energy
(4) activated complex

Base your answers to Questions 16 and 17 on the potential energy diagram of a chemical reaction shown below;



16. Which arrow represents the activation energy for the forward reaction?
(1) A (2) B (3) C (4) D

17. The forward reaction is best described as an
(1) exothermic reaction in which energy is released
(2) exothermic reaction in which energy is absorbed
(3) endothermic reaction in which energy is released
(4) endothermic reaction in which energy is absorbed

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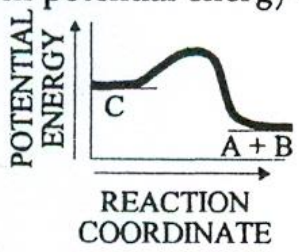
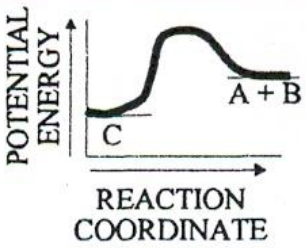
18. Which statement describes characteristics of an endothermic reaction?
(1) The sign of ΔH is positive, and the products have less potential energy than the reactants.
(2) The sign of ΔH is positive, and the products have more potential energy than the reactants.
(3) The sign of ΔH is negative, and the products have less potential energy than the reactants.
(4) The sign of ΔH is negative, and the products have more potential energy than the reactants.

19. Which potential energy diagram represents the reaction $A + B \rightarrow C + energy$?

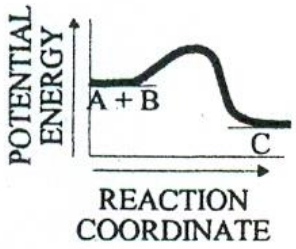
(1)



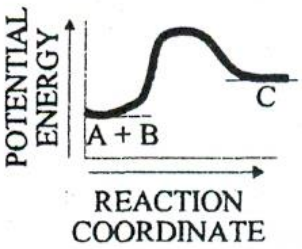
(3)



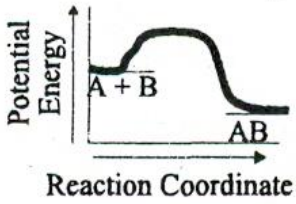
(2)



(4)

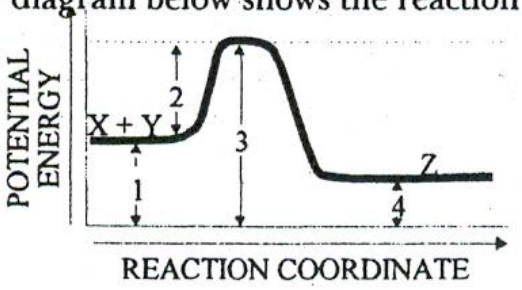


20. The potential energy diagram shown below represents the reaction A+B → AB.



Which statement correctly describes this reaction?
(1) It is endothermic and energy is absorbed.
(2) It is endothermic and energy is released.
(3) It is exothermic and energy is absorbed.
(4) it is exothermic and energy is released.

21. The potential energy diagram below shows the reaction $X + Y \rightleftarrows Z$.



Which is the greatest energy interval in this diagram and what does it represent?

22. Assume that the potential energy of the products in a chemical reaction is 60 kilojoules. This reaction would be exothermic if the potential energy of the reactants were
(1) 50 kJ (2) 20 kJ (3) 30 kJ (4) 80 kJ