ALBERTA CHEMISTRY 30 · UNIT A · 5 QUESTIONS

Thermochemistry — Practice Test

This practice test was made by AI and there may be mistakes. If a question or answer looks wrong, use the Flag a mistake button to let Brett know so he can fix it.

1 **Which of the following processes is endothermic?**

- **A** The combustion of methane in a furnace
- **B** The dissolving of ammonium nitrate in water in an instant cold pack
- **C** The condensation of steam on a mirror
- **D** The neutralization of an acid with a base

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2 **The graph shows the temperature of water in a calorimeter as energy is transferred to the water. The water has a mass of 150.0 g, and c = 4.184 J/(g· ° C). The energy transferred to the water, in kJ, is ____.**

ANSWER _____

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3 **The standard molar enthalpy of formation of which of the following substances is zero?**

A $H_2O(l)$

B $CO_2(g)$

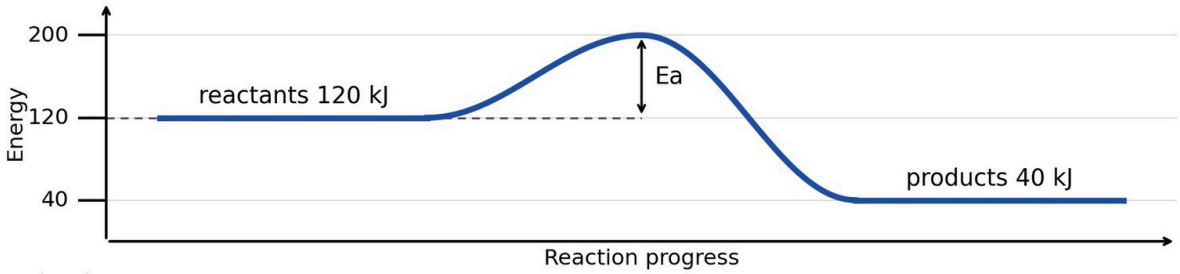
C $O_2(g)$

D $CH_4(g)$

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4

The diagram shows the potential energy profile for a chemical reaction. The reaction shown is



Question 4

The diagram shows the potential energy profile for a chemical reaction. The reaction shown is

A) exothermic

B) endothermic

C) at equilibrium

D) catalyzed

A exothermic

B endothermic

C at equilibrium

D catalyzed

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5 **The Ellis Island main building, a large red brick building with green copper towers, seen across the water in New York Harbor. A student burns a fuel sample beneath a metal can of water and calculates the molar enthalpy of combustion of the fuel. The calculated value is less negative than the accepted value. The main reason for this difference is that**



A some water evaporated from the can during heating

B the thermometer was read before the maximum temperature was reached

C the mass of the fuel was recorded after burning

D some of the energy released by the burning fuel heated the air and the can instead of the water

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ANSWER KEY

1. B
2. 3.77
3. C
4. A
5. D

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