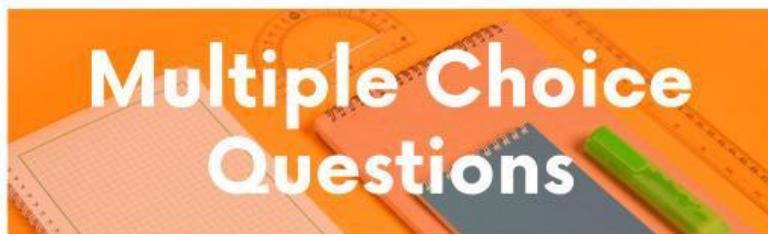
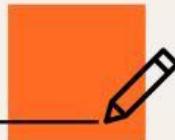




# Standard Enthalpy Change



Choose the correct answer.



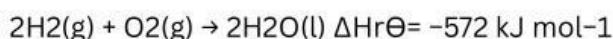
**1. Which statement does not fit with the standard condition?**

- A. a pressure of 101 kPa
- B. normal physical state (solid, liquid or gas) at 101 kPa and 373 K
- C. a temperature of 298 K (25 °C)
- D. normal physical state (solid, liquid or gas) at 101 kPa and 298 K

**2. The term for enthalpy change when the amounts of reactants shown in the stoichiometric equation react to give products under standard conditions is ...**

- A. enthalpy change of formation
- B. enthalpy change of combustion
- C. standard enthalpy change of reaction
- D. enthalpy change of neutralisation

**3. Look at the chemical equation below.**



The right statement relate with the chemical equation is ... .

- A. It is endothermic reaction.
- B. It absorbs energy from the environment.
- C. enthalpy of the product is higher than the reactant.

D. It releases energy to the environment.

**4. Look at the chemical equation below.**



**The right statement relate with the chemical equation is ... .**

- A. The formation of 1 moles of  $\text{Fe}_2\text{O}_3$  is exothermic reaction that releases  $-824.2 \text{ kJ mol}^{-1}$  energy to the surrounding.
- B. The formation of 1 moles of  $\text{Fe}_2\text{O}_3$  is exothermic reaction that releases  $-1648.4 \text{ kJ mol}^{-1}$  energy to the surrounding.
- C. The formation of 1 moles of  $\text{Fe}_2\text{O}_3$  is exothermic reaction that absorb  $-1648.4 \text{ kJ mol}^{-1}$  energy from the surrounding.
- D. The formation of 1 moles of  $\text{Fe}_2\text{O}_3$  is endothermic reaction that absorb  $-1648.4 \text{ kJ mol}^{-1}$  energy from the surrounding.

**5. Enthalpy changes of combustion are always \_\_\_\_\_. The substances combusted can be either elements or compounds.**

- A. endothermic
- B. exothermic
- C. positive
- D. zero

**6. The term of enthalpy change when one mole of water is formed by the reaction of an acid with an alkali under standard conditions is... .**

- A. standard enthalpy change of reaction
- B. standard enthalpy change of formation
- C. standard enthalpy change of neutralisation
- D. standard enthalpy change of combustion

**7. The ionic equation for acid- alkali reaction is ... .**

- A.  $\text{HCl(aq)} + \text{NaOH(aq)} \rightarrow \text{NaCl(aq)} + \text{H}_2\text{O(l)}$
- B.  $\text{Na}^+ + \text{Cl}^- \rightarrow \text{NaCl}$
- C.  $\text{Na}^+ + \text{OH}^- \rightarrow \text{NaOH}$
- D.  $\text{H}^+(\text{aq}) + \text{OH}^-(\text{aq}) \rightarrow \text{H}_2\text{O(l)}$

8. Look at the chemical equations below.



Use the information above to calculate the enthalpy change of the chemical reaction below with the same unit.



- A. +550
- B. -278
- C. -1094
- D. -1372

9. Look at the chemical equations below.



Use the information above to calculate the enthalpy change of the chemical reaction below with the same unit.



- A. -947
- B. -361
- C. +361
- D. +947

10. Which equation represents the reaction that has a standard enthalpy change equal to the standard enthalpy of formation for barium chloride?

- A.  $\text{Ba(g)} + \text{Cl}_2\text{(g)} \rightarrow \text{BaCl}_2\text{(s)}$
- B.  $\text{Ba}^{2+}\text{(g)} + 2\text{Cl}^-\text{(g)} \rightarrow \text{BaCl}_2\text{(s)}$
- C.  $\text{Ba(s)} + \text{Cl}_2\text{(g)} \rightarrow \text{BaCl}_2\text{(s)}$
- D.  $\text{Ba}^{2+}\text{(s)} + 2\text{Cl}^-\text{(g)} \rightarrow \text{BaCl}_2\text{(s)}$

