Revised August 2011

HONORS WORKSHEET 10s: ANSWERS

1.

   (a)

Extent of reaction

   (b)

Extent of reaction
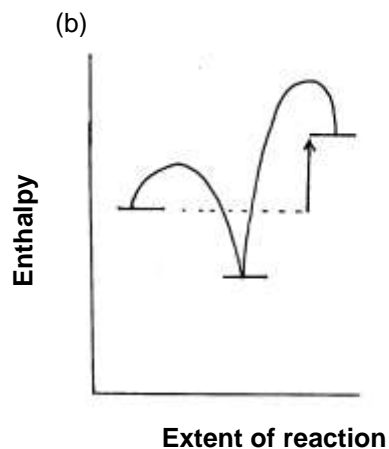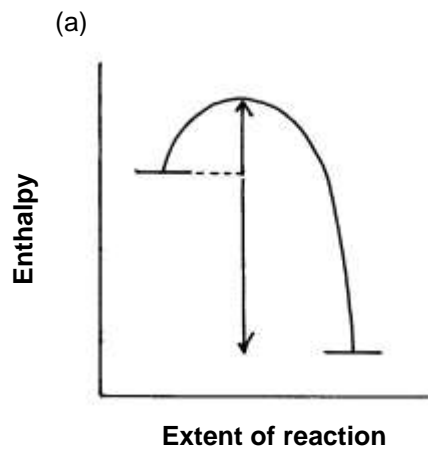
2.

   (a) Exothermic, energy is released

   (b) 19870 kJ of energy released or ΔH = -19870 kJ

   (c) An INCREASE of 1494 K

3. +86 kJ

4. 218 kJ (+ve if bonds are broken, -ve if bonds are made)

5.

   (a) -184 kJ
   (b) -95 kJ

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6.

    (a) The enthalpy change when 1 mole of a substance is formed from its elements in their standard states under standard conditions

    (b) $3C_{(s)} + 4H_{2(g)} + \frac{1}{2}O_{2(g)} \rightarrow C_3H_7OH_{(l)}$

    (c) The enthalpy change when 1 mole of a substance is burned completely in oxygen under standard conditions

    (d) $C_3H_7OH_{(l)} + 4\frac{1}{2}O_{2(g)} \rightarrow 3CO_{2(g)} + 4H_2O_{(l)}$

7. The enthalpy change in a reaction is independent of the route taken

8. $6C_{(s)} + 8H_{2(g)} \rightarrow 2C_3H_{8(g)}$