



KEC

# K Education Centre



## AS Chemistry

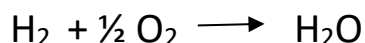
C8: Chemical Energetics -2

Assignment Questions

©KEducationCentre  
Year 2024

## Chemical Energetics -2

**Q1:** Hydrogen reacts with oxygen to form water.

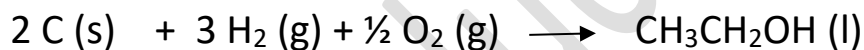


Use the data in the table to calculate enthalpy change of reaction.

Bond	H - H	O = O	O-H
Bond Enthalpy KJmol <sup>-1</sup>	436	498	464

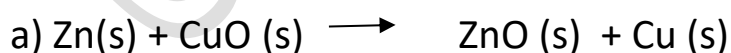
**Q2:** Data in the table below can be used to calculate the standard enthalpy change of formation of Ethanol.

Substance	C (s)	H <sub>2</sub> (g)	CH <sub>3</sub> CH <sub>2</sub> OH (l)
$\Delta_c H / \text{KJ mol}^{-1}$	-394	-286	-1367



Calculate the enthalpy change of formation of Ethanol.

**Q3:** Draw enthalpy cycles and calculate the  $\Delta H^\ominus$  for each of following :



Use the following table showing  $\Delta H_f^\ominus$  for the calculations.

Compound	$\Delta H_f^\ominus / \text{KJmol}^{-1}$
ZnO (s)	-348
CuO (s)	-157
CH <sub>3</sub> OCH <sub>3</sub> (g)	-184
C <sub>2</sub> H <sub>5</sub> OH (l)	-277