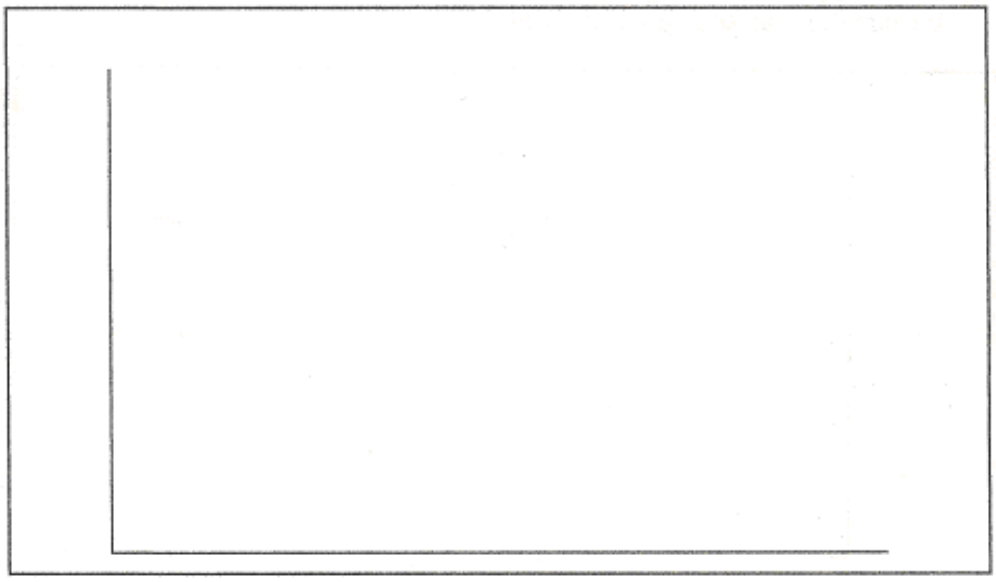
"Hey, this reaction is cool"

1) Using Table I, look up the Heat of Reaction (ΔH) for the formation of ethene gas (C_2H_4) from C and H_2.

a) Is this reaction exothermic or endothermic? Why?

b) Write the reaction and include the energy involved.

c) Draw the potential energy diagram for this reaction in the space below. Include the reactants, products & ΔH.



d) If the activation energy of the forward reaction (Ea_f) is 100 kJ, what is the activation energy of the reverse reaction (Ea_r)? Show your work

e) How much energy would be involved in the formation of 2 moles of C_2H_4? (Show your work.)

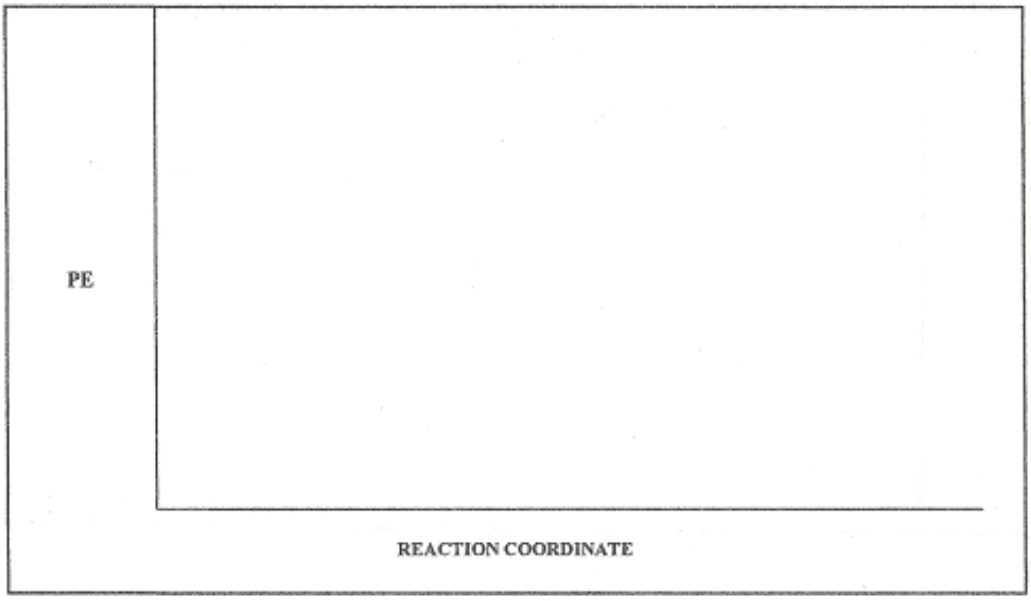
"Hey, this reaction is hot"

1) Using Table **I**, look up the Heat of Reaction (ΔH) for the formation of water gas (H_2O (g)) from H_2 and O_2.

a) Is this reaction exothermic or endothermic?

b) Write the reaction in the space below and include the energy involved.

c) Draw the potential energy diagram for this reaction in the box below. Include the reactants, products & ΔH.



d) If the activation energy of the forward reaction (Ea_f) is 100 kJ, what is the activation energy of the reverse reaction (Ea_r)? Show your work

e) How much energy would be involved in the formation of 72 g of H_2O? (Show your work.)