- What quantity of heat is released when 15.2 g of propane (C_3H_8) is burnt according to the following equation?

$$C_3H_8(g) + 5O_2(g) \rightarrow 3CO_2(g) + H_2O(l) \qquad \Delta H = -2221 \text{ kJ mol}^{-1}$$

3

2

- How much heat is evolved when 907 g of ammonia is produced according to the following equation? (Assume the reaction occurs at constant pressure.)

$$N_2(g) + 3H_2(g) \rightarrow 2NH_3(g) \qquad \Delta H = -91.8 \text{ kJ mol}^{-1}$$

Answer:

Marks 3

- The balanced equation for the complete oxidation of glucose to carbon dioxide and water is given below.

$$C_6H_{12}O_6(s) + 6O_2(g) \rightarrow 6CO_2(g) + 6H_2O(l)$$

Calculate the mass of carbon dioxide produced by the complete oxidation of 1.00 g of glucose.

Answer:

Calculate the volume of this mass of carbon dioxide at 0.50 atm pressure and 37 °C.

Answer: