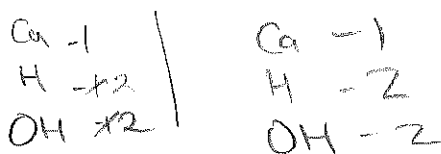
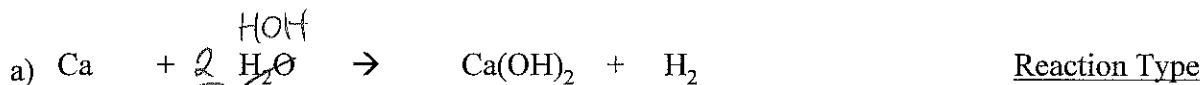
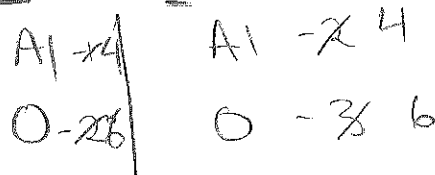


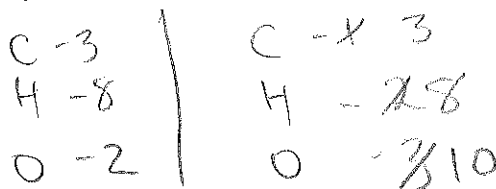
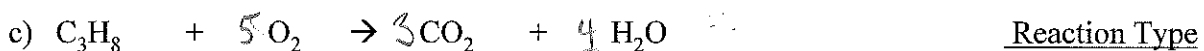
1. **Balance** the following equations by putting the proper coefficients wherever they are needed (1 mark). Also, state what **TYPE of reaction** it is Formation (F), Decomposition (D), Combustion (C), Single Replacement (SR), or Double Replacement (DR). (1 mark). - total /10



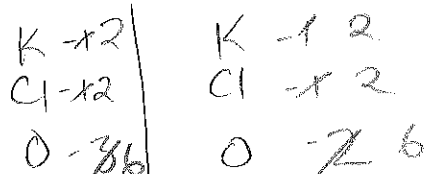
SR



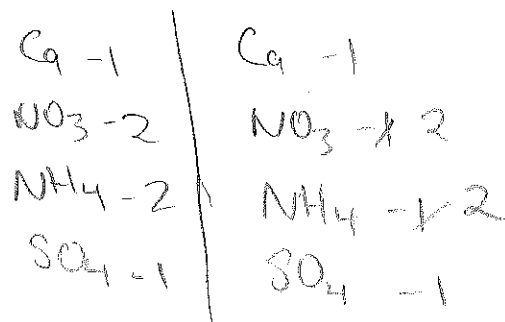
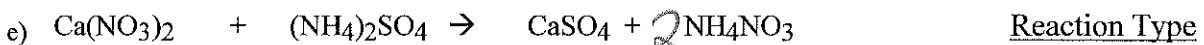
F



C



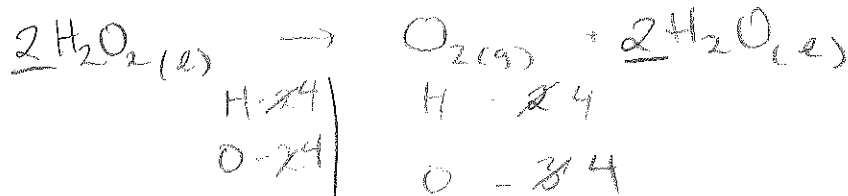
D



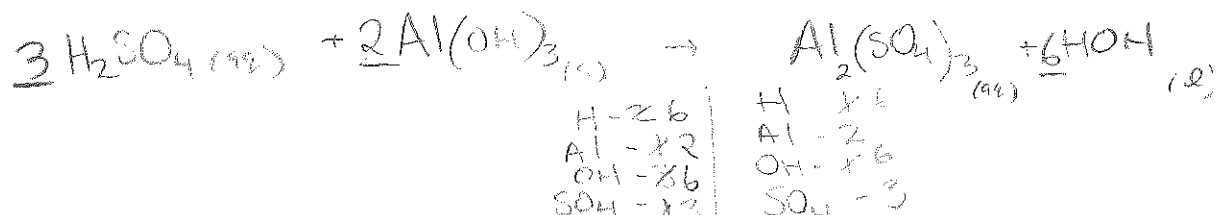
DR

2. Write the **chemical equation** and **balance**, also include **solubility**. Each question is worth 3 marks.

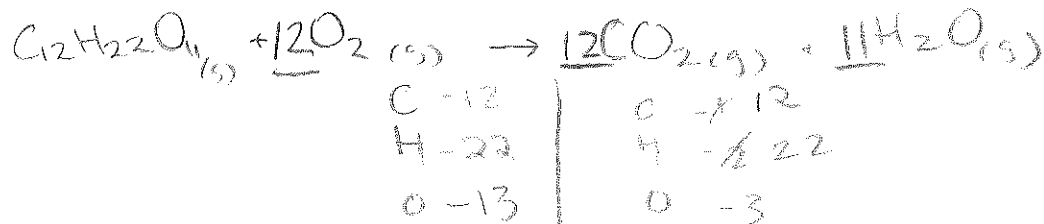
a) hydrogen peroxide decomposes into oxygen gas and water



b) sulfuric acid reacts with solid aluminum hydroxide to make aluminum sulfate and water



c) solid sucrose burns in oxygen gas to produce carbon dioxide gas and water vapour



4. Calculate the unknown variable. Write your answer in **significant digits**. (2 marks each)

a) What is the mass of 1.2mol of sodium chloride?

$$M = \frac{m}{n}$$

$$n = \frac{m}{M}$$

NaCl

$$n = 1.2 \text{ mol}$$

$$M = 58.44 \text{ g/mol}$$

$$m = nM = 1.2 \text{ mol} \cdot 58.44 \text{ g/mol}$$

$$m = 70.128 \text{ g}$$

$$m = 70 \text{ g}$$

b) How many moles are in 32.5grams of LiCl?

$$n = ?$$

$$m = 32.5 \text{ g}$$

$$M = 42.39 \text{ g/mol}$$

$$n = \frac{32.5 \text{ g}}{42.39 \text{ g/mol}}$$

$$n = 0.7666 \text{ mol}$$

$$n = 7.67 \times 10^{-1} \text{ mol}$$