

(Using moles to calculate masses)

Q1. (2019)

$$\left(\frac{150\,000}{71} = \right) 2113 \text{ (mol of Cl}_2\text{)}$$

or

$$\text{(volume of 1 g of Cl}_2 = \frac{24}{71} = \text{)} \\ 0.34 \text{ (dm}^3\text{)}$$

$$\left(\frac{150\,000}{71} \times 24 \right) = 50700 \text{ (dm}^3\text{)}$$

Q2. a). (2019)

to make sure all of the oxide (of copper) has reacted

or

to make sure all water (produced) is removed

Q2. b). (2019)

to prevent hydrogen escaping (into the air)

(because) hydrogen is explosive

Q3. (2019)

$$\text{moles Cu} = 0.04$$

or

$$\frac{2.54}{63.5} = 0.04$$

$$\text{moles H}_2\text{O} = 0.04$$

or

$$\frac{0.72}{18} = 0.04$$

ratio = 1:1 so equation 2 is correct

Q4. (2024)

