Tugasan Pengetahuan Metakognisi dan Regulasi Metakognisi 2
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Instruction:
1. Students are required to read carefully the instruction in this question paper.
   
2. This question paper consists of 3 question.

3. Answer all questions.

4. Voice your thinking process from the beginning until the end while writing the chemical equation and solving the stoichiometry problems below.

1. 4 g of carbon powder and 8 g of copper(II) oxide is mixed. When the mixture is heated, the reaction that occurs is shown in the following equation.

   \[ C + 2 \text{CuO} \rightarrow 2 \text{Cu} + \text{CO}_2 \]

   What is the remaining mass of carbon after the reaction has completed? (Relative atomic mass; C, 12; O, 16; Cu, 64)
   A. 0.6 g  
   B. 1.6 g  
   C. 2.6 g  
   D. 3.4 g

2. Sodium reacts with chlorine to form sodium chloride.

   \[ 2 \text{Na} + \text{Cl}_2 \rightarrow 2 \text{NaCl} \]

   What is the mass of sodium chloride formed when 2.30 g of sodium reacts with excess chlorine?
   [Relative atomic mass, Na=23, Cl=35.5]
   A. 2.93 g  
   B. 5.85 g  
   C. 9.40 g  
   D. 11.70 g

3. Copper can be produced from copper (II) sulphide as shown in the following equation

   \[ \text{CuS(s)} + \text{O}_2(g) \rightarrow \text{Cu(s)} + \text{SO}_2(g) \]

   9.6 g of copper (II) sulphide is heated with 0.2 mol of oxygen gas. How much mass of copper metal is produced?
   [Relative atomic mass; S; 32; Cu; 64; O, 16]