Class 11 Chemistry · Chapter 1: Some Basic Concepts of Chemistry

Worksheet · 20 marks · about 40 minutes · based on NCERT

Name _____ Class and section _____ Date _____

Scan for the free Class 11 Chemistry test

1. Which of these measurements has the same number of significant figures as 0.02060 g? [1]

(a) 2060 g (b) 20.60 g
(c) 2.06 g (d) 0.206 g

2. Which of these facts about a strip of magnesium ribbon can be found only by making a chemical change happen? [1]

(a) its silvery-white colour (b) its density
(c) whether it burns in air to form magnesium oxide (d) its melting point

3. At what temperature do a Celsius thermometer and a Fahrenheit thermometer show the same number? [1]

(a) 0° (b) −32°
(c) −40° (d) 40°

4. The bond length in a molecule is 0.45 nm. Expressed in picometres it is [1]

(a) 450 pm (b) 45 pm
(c) 4.5 pm (d) 4500 pm

5. A student weighs three portions of a salt on different balances, 4.2 g, 0.153 g and 12.07 g, and mixes them. The total mass correctly reported is [1]

(a) 16.423 g (b) 16.42 g
(c) 16 g (d) 16.4 g

6. Work out, giving each answer in scientific notation: (i) $(3.0 \times 10^{-4}) \times (4.0 \times 10^{7})$ (ii) $(7.2 \times 10^{5}) - (6.0 \times 10^{4})$ [2]

7. How much water must be added to 25 mL of a 2.0 M HCl stock solution to make it 0.50 M? [2]

8. Ethyne (C_2H_2) and benzene (C_6H_6) have the same empirical formula. Write it, and state what the molecular formula tells us that the empirical formula does not. [2]

Every question original, written from NCERT, checked by a second reviewer · photocopy freely for your class

9. State the postulates of Dalton's atomic theory that explain (i) the law of conservation of mass and (ii) the law of definite proportions. Name one thing the theory could not explain. [3]

10. 6.0 g of magnesium ribbon is burnt in a closed flask containing 6.0 g of oxygen: $2Mg(s) + O_2(g) \rightarrow 2MgO(s)$. (Mg = 24, O = 16) (i) Which is the limiting reagent? (ii) What mass of MgO forms? (iii) What further mass of magnesium would be needed to use up all the oxygen? [3]

11. Phosphorus forms two oxides, A and B. In A, 1.24 g of phosphorus is combined with 0.96 g of oxygen; in B, 1.24 g of phosphorus is combined with 1.60 g of oxygen. The molar masses of A and B are 220 g mol^{-1} and 284 g mol^{-1}. (P = 31, O = 16) (i) Show that the data obey the law of multiple proportions. (ii) Find the empirical formulas of A and B. (iii) Find their molecular formulas. [3]