



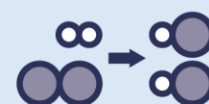
## Relative Formula Mass

Answer the following questions.

1. Circle the correct word to complete the sentence.
  - a. Relative atomic mass can also be written as  $M_r$  /  $A_r$
  - b. Relative formula mass can also be written as  $M_r$  /  $A_r$
  - c. The relative atomic mass of an **element** / **compound** can be found using the Periodic Table
  - d. The relative atomic mass can be found next to the chemical symbol, on a Periodic Table, and it is always the **bigger** / **smaller** / **top** / **bottom** number.
2. State the relative atomic mass ( $A_r$ ) for the following elements:
  - a. Nitrogen **14**
  - b. Bromine **80**
  - c. Neon **20**
  - d. Thallium **204**
  - e. Vanadium **51**
  - f. Helium **4**
  - g. Hydrogen **1**
  - h. Oxygen **16**
  - i. Carbon **12**
  - j. Osmium **190**
  - k. Gold **197**
  - l. Copper **63.5**
3. Calculate the relative formula mass ( $M_r$ ) of each of the following compounds.

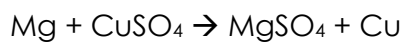
Show your working.

- a.  $\text{Cl}_2$  **71**
- b.  $\text{H}_2$  **2**
- c.  $\text{H}_2\text{O}$  **18**
- d.  $\text{CO}_2$  **44**
- e.  $\text{HCl}$  **36.5**
- f.  $\text{CuSO}_4$  **159.5**
- g.  $\text{NaOH}$  **40**
- h.  $\text{Al}_2\text{O}_3$  **102**
- i.  $\text{Zn}(\text{OH})_2$  **99**
- j.  $\text{Mg}(\text{NO}_3)_2$  **148**
- k.  $\text{Ca}(\text{HCO}_3)_2$  **162**
- l.  $(\text{NH}_4)_2\text{SO}_4$  **132**



4. Prove that the  $M_r$  of products =  $M_r$  of reactants using the following equation.

( $A_r$ : Mg = 24; Cu = 63.5; S = 32; O = 16)



$$24 + 159.5 = 120 + 63.5$$

$$\text{both sides} = 183.5$$

5. A metal oxide has the formula MO, where M is the chemical formula for the metal and O is oxygen.

The relative formula mass for this compound is 40.

What is the metal?

$$A_r \text{ of M} + M_r \text{ of O} = 40$$

$$A_r \text{ of M} + 16 = 40$$

$$A_r \text{ of M} = 24$$

M = Magnesium.

