

# Prelim Revision MCQ20\_F

Write the title of this Exercise as a heading: Prelim Revision MCQ20\_F



1.

When water changes to steam

- A strong bonds between atoms in water molecules are broken
- B strong bonds between water molecules are broken
- C weak bonds between atoms in water molecules are broken
- D weak bonds between water molecules are broken.

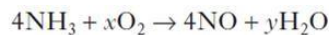
2.

0.25 mol of potassium hydroxide was dissolved in water and the solution made up to 500 cm<sup>3</sup>.

What was the concentration, in mol l<sup>-1</sup>, of the solution which was formed?

- A 0.0005
- B 0.125
- C 0.5
- D 2.0

3.



The equation will be balanced when

- A  $x = 5, y = 6$
- B  $x = 5, y = 10$
- C  $x = 3, y = 6$
- D  $x = 3, y = 10$ .

4.

0.5 mol of gas X has a mass of 23 g.

Gas X could be

- A CH<sub>4</sub>
- B CO<sub>2</sub>
- C NO<sub>2</sub>
- D NH<sub>3</sub>.

11.

Which of the following sodium chloride solutions would contain the least dissolved solute?

- A 100cm<sup>3</sup> of 4 mol l<sup>-1</sup> solution
- B 200 cm<sup>3</sup> of 3 mol l<sup>-1</sup> solution
- C 300 cm<sup>3</sup> of 1 mol l<sup>-1</sup> solution
- D 400 cm<sup>3</sup> of 0.5 mol l<sup>-1</sup> solution

12.

Which of the following statements is not true about elements?

- A They are made up of only one type of atom
- B They can join together to form compounds
- C They can join together to form molecules
- D They are all made of atoms that are the same as each other

13.

A compound of iron has the formula Fe(NO<sub>3</sub>)<sub>3</sub>.

The charge on the iron ion in this compound is

- A 1+
- B 3+
- C 1-
- D 3-

14.

During the first 20 seconds of a chemical reaction, 5.0 cm<sup>3</sup> of gas were given off.

The average rate of the reaction, in cm<sup>3</sup> s<sup>-1</sup>, during the first 20 seconds is

- A 20.0
- B 5.0
- C 4.0
- D 0.25.

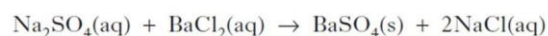
5.

What mass of ammonium sulphate,  $(\text{NH}_4)_2\text{SO}_4$ , is required to produce 0.5 litres of a  $1 \text{ mol l}^{-1}$  solution?

- A 32 g
- B 64 g
- C 66 g
- D 132 g

6.

Sodium sulphate solution reacts with barium chloride solution.



The spectator ions present in this reaction are

- A  $\text{Na}^+$  and  $\text{Cl}^-$
- B  $\text{Na}^+$  and  $\text{SO}_4^{2-}$
- C  $\text{Ba}^{2+}$  and  $\text{Cl}^-$
- D  $\text{Ba}^{2+}$  and  $\text{SO}_4^{2-}$ .

7.

0.2 mol of gas has a mass of 12.8 g.

Which of the following could be the molecular formula for the gas?

- A  $\text{SO}_2$
- B  $\text{CO}$
- C  $\text{CO}_2$
- D  $\text{NH}_3$

8.

In a displacement reaction, 1 mole of aluminium was added to excess copper(II) sulphate solution.



How many moles of copper are produced in this reaction?

- A 3.0
- B 2.0
- C 1.5
- D 1.0.

15.

When  $100 \text{ cm}^3$  of a  $1 \text{ mol l}^{-1}$  solution of sodium sulphate was evaporated to dryness, 14.2 g of solid was obtained.

To obtain 14.2 g of solid from a  $2 \text{ mol l}^{-1}$  solution of sodium sulphate the volume of solution needed would be

- A  $25 \text{ cm}^3$
- B  $50 \text{ cm}^3$
- C  $100 \text{ cm}^3$
- D  $200 \text{ cm}^3$ .

16.

What is the relative formula mass of ammonium sulfate  $(\text{NH}_4)_2\text{SO}_4$

- A 70
- B 118
- C 132
- D 228

17.

Which of the following **increases** when hydrochloric acid is diluted with water?

- A Rate of reaction with magnesium
- B Concentration of  $\text{H}^+$  ions
- C Electrical conductivity
- D pH

18.

What is the name of the compound with the formula  $\text{Ag}_2\text{O}$ ?

- A Silver(I) oxide
- B Silver(II) oxide
- C Silver(III) oxide
- D Silver(IV) oxide

9.

The gram formula mass of sodium carbonate is 106g.

How many moles are present in 5.3g of sodium carbonate?

- A 0.05
- B 0.5
- C 2
- D 20

10.

An atom has atomic number 23 and mass number 51.

The number of electrons in the atom is

- A 23
- B 28
- C 51
- D 74.

19.

Coal contains mainly carbon. The table shows the percentage of carbon in different types of coal.

Type of coal	Percentage of carbon
lignite	50
bituminous	65
anthracite	90

What mass of carbon is present in 200 kilograms of anthracite?

- A 45kg
- B 90kg
- C 180kg
- D 200kg

20.

What is the most likely pH value that would be obtained when zinc oxide is added to water?

(You may wish to use page 5 of the data booklet to help you.)

- A 5
- B 7
- C 9
- D 11