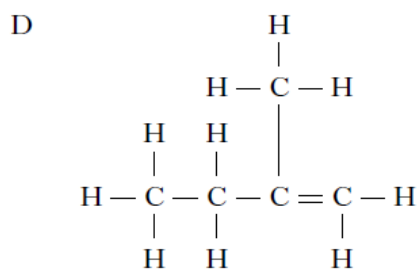
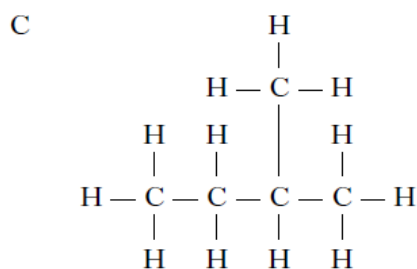
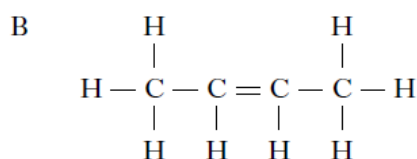
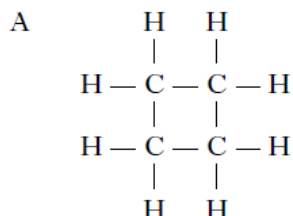


N5 Chemistry

Unit 2: Nature's Chemistry

Homework 2.2

1. Which of the following compounds belongs to the same homologous series as the compound with the molecular formula C_3H_8 ?



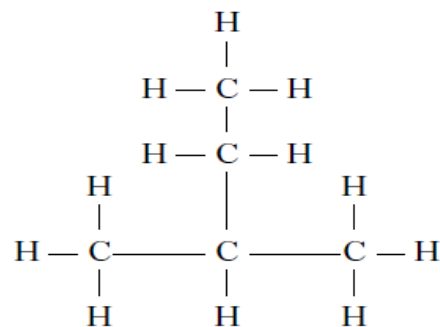
Answer _____

2. In a neutralisation reaction between an acid and an alkali, the pH

- A of the acid increases
 B of the acid is unchanged
 C of the alkali increases
 D of the alkali is unchanged.

Answer _____

3.

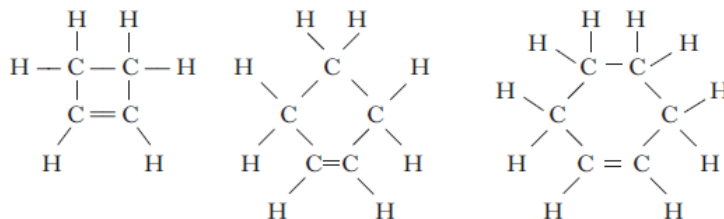


The name of the above compound is

- A 1,1-dimethylpropane
 B 2-ethylpropane
 C 2-methylbutane
 D 3-methylbutane.

Answer _____

4. Three members of the cycloalkene homologous series are:



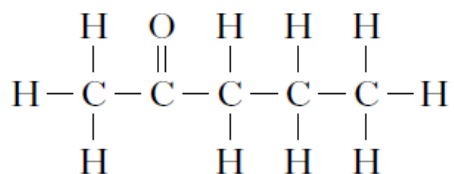
The general formula for this homologous series is

- A C_nH_{2n+2}
 B C_nH_{2n}
 C C_nH_{2n-2}
 D C_nH_{2n-4} .

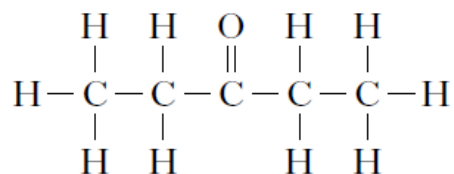
Answer _____

5. Chemicals in food provide flavour and smell. Ketones are responsible for the flavour in blue cheese.

Two examples of ketones are shown below.



pentan-2-one

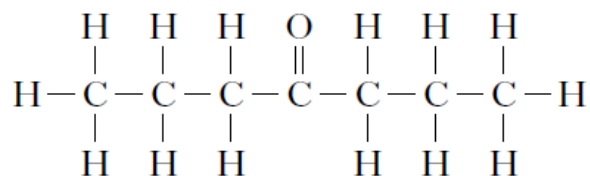


pentan-3-one

- (a) Draw a structure for hexan-3-one.

1

- (b) Suggest a name for the ketone shown below.



1

- (c) Information about the boiling points of four ketones is shown in the table.

Ketone	Boiling point (°C)
C ₃ H ₆ O	56
C ₄ H ₈ O	80
C ₅ H ₁₀ O	102
C ₆ H ₁₂ O	127

Predict the boiling point of C₇H₁₄O.

_____ °C

1

6. Part of a student's experimental work card is shown below.

National 5 Chemistry	Preparation of a Salt	

Aim

The aim of this experiment is to make a magnesium salt by the reaction of magnesium/magnesium carbonate with sulfuric acid.

Procedure

- Using a measuring cylinder add 20 cm³ of dilute acid to the beaker.
- Add a spatulaful of magnesium or magnesium carbonate to the acid and stir the reaction mixture with a glass rod.
- If all the solid reacts add another spatulaful of magnesium or magnesium carbonate and stir the mixture.
- Continue adding the magnesium or magnesium carbonate until . . .

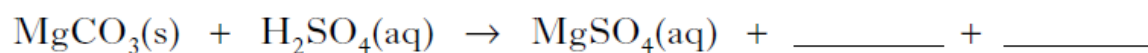
a) Complete the instruction for step 4 of the procedure.

1

b) Why is an excess of magnesium or magnesium carbonate added to the acid?

1

c) The equation for the preparation of magnesium sulfate from the magnesium carbonate is shown.



i) Complete the equation showing the formulae for the missing products.

1

ii) What type of reaction occurs?

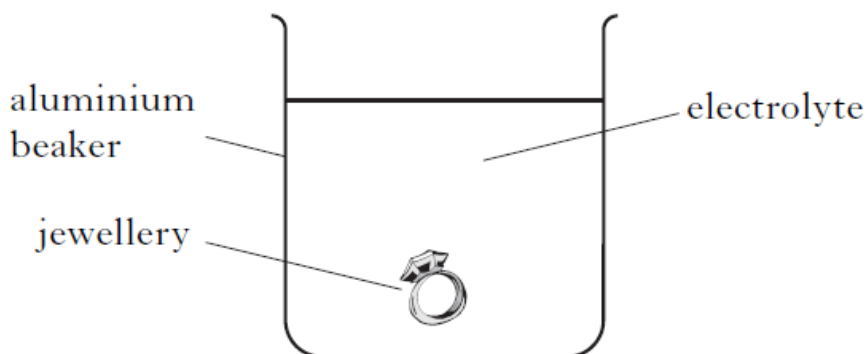
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iii) Write the **ionic** formula for magnesium carbonate.

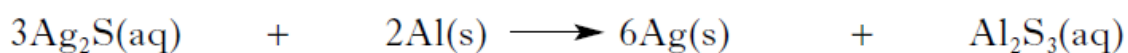
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7. Silver jewellery slowly tarnishes in air. This is due to the formation of silver(I) sulphide.

The silver(I) sulphide can be converted back to silver using the following apparatus.



The equation for the reaction which takes place in the beaker is shown.



- (a) Calculate the mass of silver produced when 0.135 g of aluminium is used up.

_____ g 3

- (b) How would you show that aluminium has been lost from the beaker during this reaction?

_____ 1

Total Marks 16