

Name:

Class:



Give two conditions used to crack large alkane molecules.

Any **two** from:

High temperature or High pressure or Anaerobic/ no oxygen. Using a catalyst.

When alkenes react with bromine water the colour changes from orange to

Colourless

Do not accept clear.

A student has a beaker containing 120 g of magnesium oxide (MgO).
Calculate the number of moles of magnesium oxide in the beaker.

Relative atomic mass of magnesium (Mg) = 24 g/mol

Relative atomic mass of oxygen (O) = 16 g/mol

Mr of MgO = 24 + 16 = 40 g/mol

Moles = $120 \div 40 = 3$ mol

An ammonium ion has the formula NH_4^+ .

A sulfate ion has the formula SO_4^{2-} .

Write the formula for ammonium sulfate.

$(\text{NH}_4)_2\text{SO}_4$

Give the formula for a molecule of ammonia.

NH_3

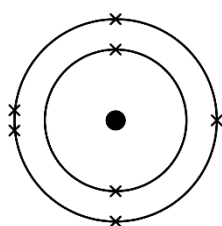
Calculate the relative formula mass of butene, C_4H_8 . Show your working.

$4(12) + 8(1) = 56$

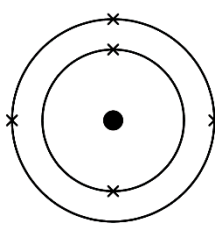
Give the general formula of an alkane.

$\text{C}_n\text{H}_{2n+2}$

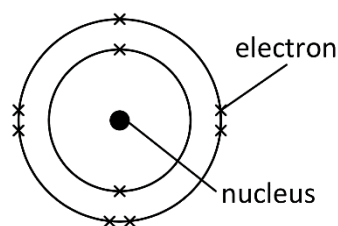
These atoms are from elements in the second row (lithium to neon) of the periodic table.



Atom X



Atom Y



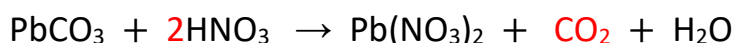
Atom Z

State and explain which atom is from an element in Group 3 of the periodic table.

Atom: Y.

Explanation: As it has three electrons in its outer shell.

Complete and balance the following equation.



What is the charge of a neutron?

Neutral or no charge.