Read the exam style question carefully, then fill in each section below.

Question:

Hydrocarbons can be cracked to produce more useful molecules. Some of these molecules are alkanes.

a. Butane is an alkane. Draw the displayed formula for butane. **(2)**

b. Decane can be cracked to produce two products. Complete the equation for this reaction:

$C_{10}H_{22} \rightarrow$ _____ + C_2H_4 **(1)**

c. C_2H_4 is an alkene. Describe a test and the result that could be used to confirm the presence of an alkene. **(2)**

Section 1: At first glance

1. What **command words** are used in this question? Circle them clearly.

2. **Underline the key information** in the question above.

2. **How many marks** is this question worth?

Section 2: Thinking ahead

Read the question again.

What do you need to know in order to answer this question really well?

Can you split the question into two or more parts?

Are there any labelled diagrams that might help you to show your answer?

What are the key words that you should include in your answer?

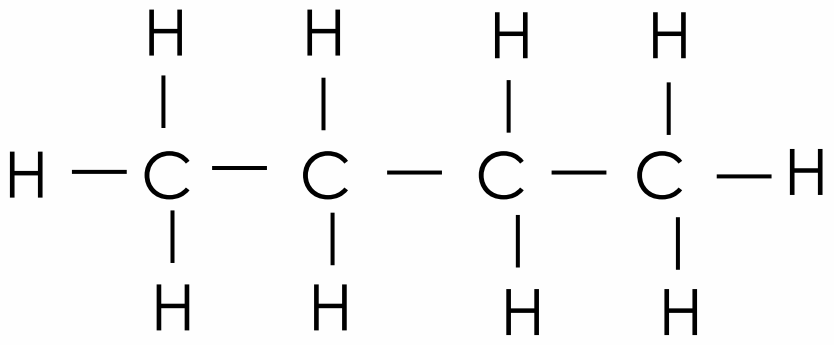
Section 4: Space to plan

Use this space to plan your answer.

Section 4: Answer the question

Section 5: Mark Scheme

a.



1 mark for four carbon atoms

1 mark for all correct bonds

b. C_8H_{18}

c. 1 mark for test: add bromine water
1 mark for result: bromine water turns (from orange to) colourless