

Number of carbon atoms	Structure of the Alkanes	Condensed formula	Molecular formula
1	$\begin{array}{c} \text{H} \\ \\ \text{H}-\text{C}-\text{H} \\ \\ \text{H} \end{array}$	CH ₄	CH ₄
2	$\begin{array}{c} \text{H} \quad \text{H} \\ \quad \\ \text{H}-\text{C}-\text{C}-\text{H} \\ \quad \\ \text{H} \quad \text{H} \end{array}$	CH ₃ -CH ₃	C ₂ H ₆
3 ✓	$\begin{array}{c} \text{H} \quad \text{H} \quad \text{H} \\ \quad \quad \\ \text{H}-\text{C}-\text{C}-\text{C}-\text{H} \\ \quad \quad \\ \text{H} \quad \text{H} \quad \text{H} \end{array}$	CH ₃ -CH ₂ -CH ₃	C ₃ H ₈
4 ✓	$\begin{array}{c} \text{H} \quad \text{H} \quad \text{H} \quad \text{H} \\ \quad \quad \quad \\ \text{H}-\text{C}-\text{C}-\text{C}-\text{C}-\text{H} \\ \quad \quad \quad \\ \text{H} \quad \text{H} \quad \text{H} \quad \text{H} \end{array}$	CH ₃ -CH ₂ -CH ₂ -CH ₃	C ₄ H ₁₀

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2	$\begin{array}{c} \text{H} & & \text{H} \\ & \diagdown & / \\ & \text{C}=\text{C} & \\ & / & \diagdown \\ \text{H} & & \text{H} \end{array}$	$\text{CH}_2=\text{CH}_2$	C_2H_4
3	$\begin{array}{c} \text{H} & & \text{H} \\ & \diagdown & / \\ & \text{C}=\text{C} & \\ & / & \diagdown \\ \text{H} & & \text{C}-\text{H} \\ & & / \ \backslash \\ & & \text{H} \ \ \text{H} \end{array}$	$\text{CH}_2=\text{CH}-\text{CH}_3$	C_3H_6
4 ✓	$\begin{array}{cccc} \text{H} & & \text{H} & \text{H} \\ & & & \\ \text{C}=\text{C} & - & \text{C} & - & \text{C} & - & \text{H} \\ & & & \\ \text{H} & \text{H} & \text{H} & \text{H} \end{array}$	$\text{CH}_2=\text{CH}-\text{CH}_2-\text{CH}_3$	C_4H_8
5	$\begin{array}{cccc} \text{H} & & \text{H} & \text{H} & \text{H} \\ & & & & \\ \text{C}=\text{C} & - & \text{C} & - & \text{C} & - & \text{C} & - & \text{H} \\ & & & & \\ \text{H} & \text{H} & \text{H} & \text{H} & \text{H} \end{array}$	$\text{CH}_2=\text{CH}-\text{CH}_2-\text{CH}_2-\text{CH}_3$	C_5H_{10}

Q) Write the molecular formula of an Alkane and Alkene with 7 carbon atoms.

Ans) Alkane = C_7H_{16}

Alkene = C_7H_{14}