

Name Key

Period _____

Naming Alkanes – Worksheet #1

Name the following branched alkanes:

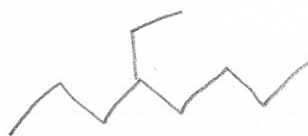
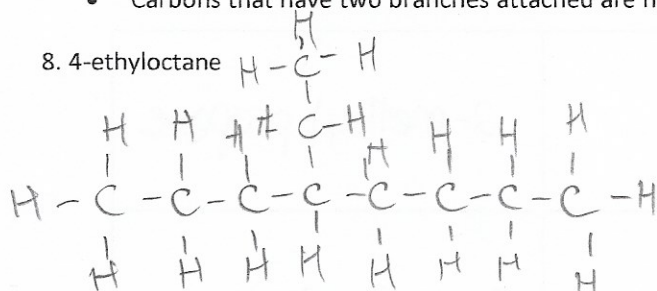
1.	$\begin{array}{c} \text{H}_3\text{C}^1 - \text{CH}^2 - \text{CH}_3^3 \\ \\ \text{CH}_3 \end{array}$	2-methyl propane
2.	$\begin{array}{c} \text{H}_3\text{C} - \text{CH}^2 - \text{CH}_3^1 \\ \\ \text{CH}_2 - \text{CH}_3 \\ 3 \quad 4 \end{array}$	2-methyl butane
3.	$\begin{array}{c} \text{H}_3\text{C}^1 - \text{CH}_2^2 - \text{CH}_2^3 - \text{CH}^4 - \text{CH}_2^5 - \text{CH}_2^6 - \text{CH}_3^7 \\ \\ \text{CH}_2 - \text{CH}_3 \end{array}$	4-ethyl heptane
4.	$\begin{array}{c} \text{H}_3\text{C} - \text{CH}_2 - \text{CH}_2 - \text{CH}^4 - \text{CH}^3 - \text{CH}_2 - \text{CH}_3 \\ 7 \quad 6 \quad 5 \quad \quad \quad 2 \quad 1 \\ \text{CH}_3 \quad \text{CH}_2 - \text{CH}_3 \end{array}$	3-ethyl-4-methyl heptane
5.	$\begin{array}{c} \text{H}_3\text{C}^1 - \text{CH}_2^2 - \text{CH}^3 - \text{CH}_2^4 - \text{CH}^5 - \text{CH}_2 - \text{CH}_3 \\ \quad \quad \quad \\ \text{CH}_3 \quad \text{CH}_2 - \text{CH}_2 - \text{CH}_3 \\ 6 \quad 7 \quad 8 \end{array}$	5-ethyl-3-methyl octane
6.	$\begin{array}{c} \text{H}_3\text{C}^10 - \text{CH}_2^9 - \text{CH}_2^8 - \text{CH}_2^7 - \text{CH}_2^6 \\ \\ \text{H}_3\text{C}^1 - \text{CH}_2^2 - \text{CH}_2^3 - \text{CH}_2^4 - \text{C}^5 - \text{CH}_2 - \text{CH}_3 \\ \\ \text{CH}_3 \end{array}$	5-ethyl-5-methyl decane
* 7.	$\begin{array}{c} \text{CH}_2^3 - \text{CH}_2^2 - \text{CH}_3^1 \\ \\ \text{H}_2\text{C} - \text{CH}^4 - \text{CH}_2^5 - \text{CH}^6 - \text{CH}_3 \\ \quad \quad \\ \text{CH}_3 \quad \text{CH}_2 - \text{CH}_2 - \text{CH}_3 \\ 7 \quad 8 \quad 9 \end{array}$	4-ethyl-6-methyl nonane

(over)

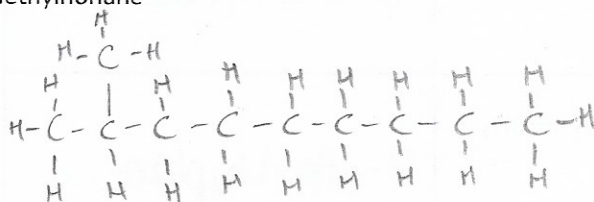
Draw structural formulas for the following molecules. Remember the following:

- Carbons on the end of a chain are attached to three hydrogens
- Carbons in the middle of a chain are attached to two hydrogens
- Carbons that have one branch attached are also attached to one hydrogen
- Carbons that have two branches attached are not attached to any hydrogens

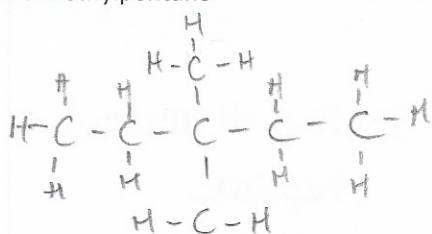
8. 4-ethyloctane



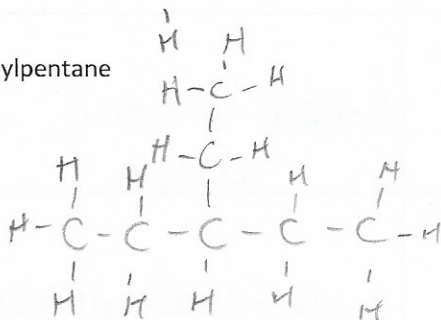
9. 2-methylnonane



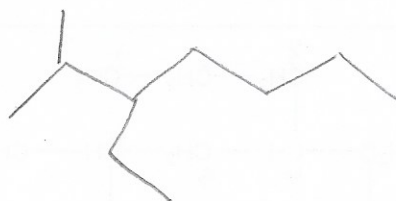
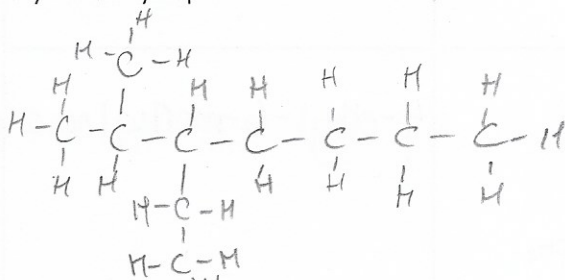
10. 3,3-dimethylpentane



11. 3-ethylpentane



12. 3-ethyl-2-methylheptane



- 1) 2-methylpropane 2) 2-methylbutane 3) 4-ethylheptane 4) 3-ethyl-4-methylheptane 5) 5-ethyl-3-methyloctane 6) 5-ethyl-5-methyldecane
7) 4-ethyl-6-methylnonane 8-12) see website