Chemistry Worksheet: Hydrocarbons

Name each structure for questions 1-5.

1. \( \text{CH}_3\text{CH}=\text{CHCH}_2\text{CH}_3 \)
2. \( \text{CH}_3\text{CH}_2\text{C}≡\text{CCH}_3 \)
3. \( \text{CH}_3\text{CH}_2\text{C}=\text{CCH}_2\text{CH}_3 \)
4. \( \text{CH}_3\text{CH}_2\text{CH}_2\text{CH}_2\text{CH}_3 \)
5. \( \text{CH}_3\text{CH}_2\text{CH}=\text{CHCH}_2\text{CH}_2\text{CH}=\text{CH}_2 \)
6. What is the molecular formula of benzene?
7. Draw the best way to represent the structure of benzene.
8. What group is characteristic of an alcohol?
9. Name the cycloalkane given below.

![Cycloalkane](image)

10. Draw the structure of 3-ethyl-5,7-dimethyl-5-propynonane is ____.
11. What suffix is used in naming alcohols?

![Alcohol](image)

12. The correct IUPAC name of the compound \( \text{CH}_3\text{CHCHCHCHCHCHCH}_3 \) is ____.
13. The correct structural formula of 1,2-diethyl-2,3-dimethyl-6-propylcyclooctane is ____.
14. The correct condensed structure of a compound having the IUPAC name 6-ethyl-6,7-dimethyl-2,4-dioctyne is ____.
15. Which group of organic compounds can be considered derivatives of ammonia, \( \text{NH}_3 \)?
16. How many covalent bonds can a carbon atom usually form?
17. Carbon atoms readily join with atoms of ___.
18. What do all organic compounds contain?
19. Hydrocarbons in which carbon atoms are connected by only single bonds in straight chains or branched chains are called ___.
20. Describe how you know a compound is an alkane.
21. Hydrocarbons in which carbon atoms form only single bonds and are arranged in a ring are called ___.
22. The systematic names of ketones end in ___.
23. What is the name of the alkane having five carbons?
24. Draw the compound trichloromethane.
25. Name the compound \( \text{CH}_3\text{CH}_2\text{OCH}_2\text{CH}_2\text{CH}_3 \).