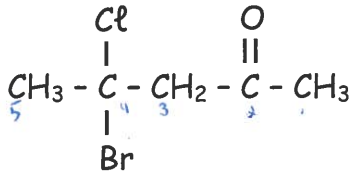
March 2019 Name: Answers.

Practice: Naming and Drawing Organic Molecules

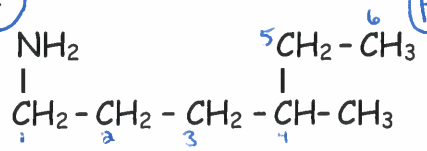
1. Name each molecule using the **IUPAC** system for organic molecules.
2. **In each row**, circle the number of the molecule with the highest melting point.
3. **In each square**, write an "H" in the top right corner of all compounds that are capable of H-bonding.

1.



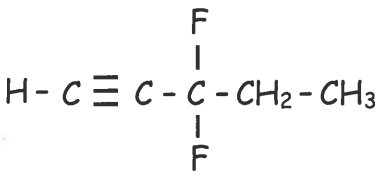
4-bromo-4-chloro-2-butanone

2. (H)



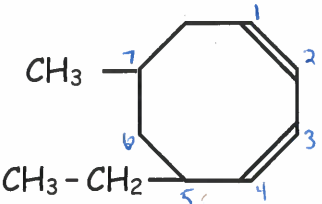
4-methyl-1-hexanamine

3.



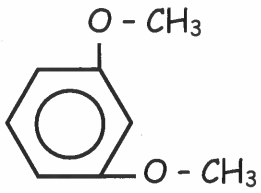
3,3-difluoro-1-pentyne

4.



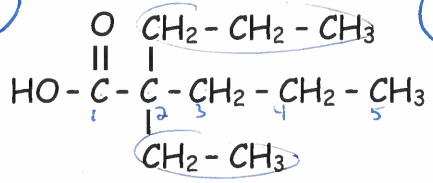
5-ethyl-7-methyl-1,3-cyclooctadiene.

5.



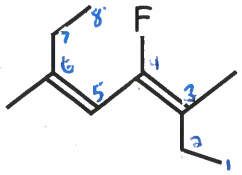
1,3-dimethoxy benzene

6. (H)



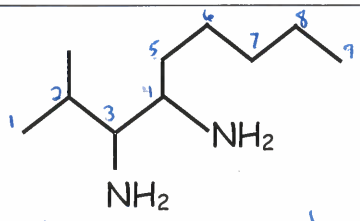
2-ethyl-2-propyl-pentanoic acid

7..



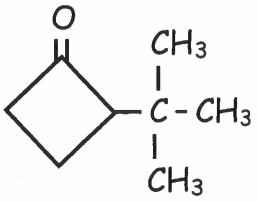
4-fluoro-3,6-methyl-3,5-octadiene.

8. (H)



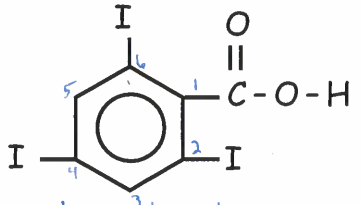
2-methyl-3,4-nonanediamine

9.



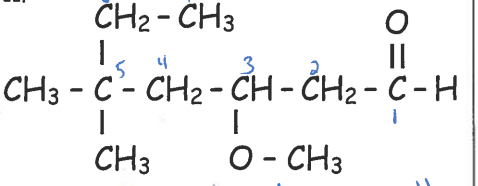
2-tertbutyl-cyclobutanone.

10. (H)



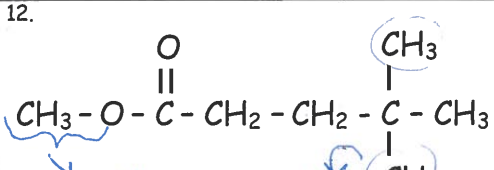
2,4,6-triiodo-benzoic acid

11.



5-ethyl-5,5-dimethyl-3-methoxy-heptanal.

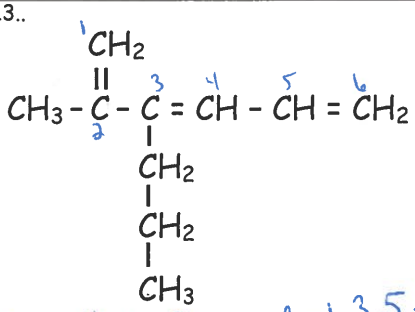
12.



methyl-4,4-dimethyl pentanoate.

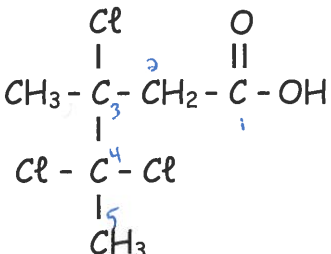
* tricky one!

13..



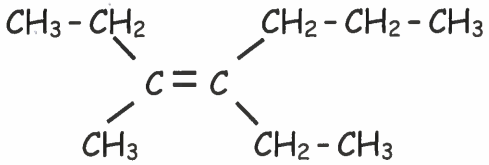
2-methyl-3-propyl-1,3,5-hexatriene.

14. (H)



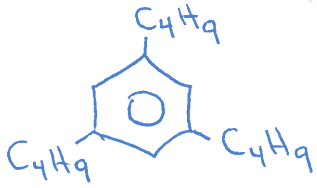
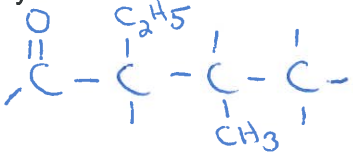
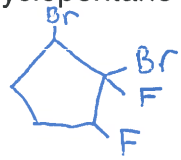
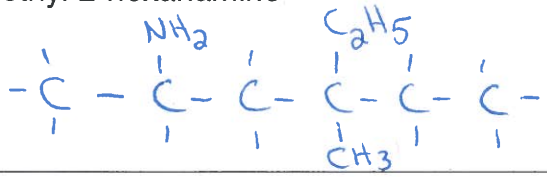
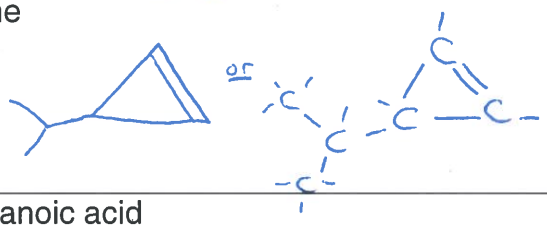
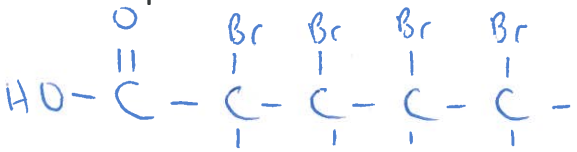
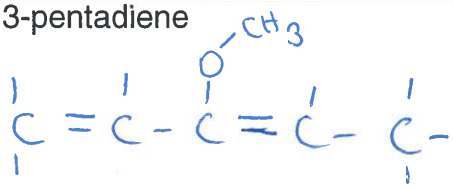
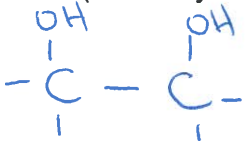
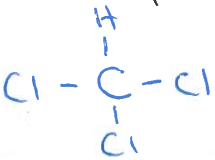
3,4,4-trichloro-3,5-dimethyl-pentanoic acid

15. Include cis or trans:



Cis-4-ethyl-3-methyl-3-heptene.

4. Draw the following molecules and complete the chart for each compound

Compound and Structural Formula	Type of Compound (Organic Family)	Polar?	Hydrogen Bonding?
1,3,5-tributylbenzene 	aromatic	no	no
2-ethyl-3-methylbutanal 	aldehyde	yes (slightly)	no
1,2-dibromo-2,3-difluorocyclopentane 	alkane. (organohalide)	yes (slightly)	no
4-ethyl-4-methyl-2-hexanamine 	amine	yes	yes.
3-isopropyl cyclopropene 	alkene.	no	no
2,3,4,5-tetrabromo pentanoic acid 	carboxylic acid	yes	yes.
3-methoxy-1,3-pentadiene 	ether / alkene.	yes (slightly)	no
1,2-ethanediol (aka ethylene glycol or antifreeze) 	alcohol	yes	yes.
trichloromethane (aka chloroform, an inhalation anesthetic) 	alkane (organohalide)	yes (slightly)	no