Week 5 Worksheet

1. Draw all possible constitutional isomers for $C_7H_{16}$

2. Assign a name to this alkane.
3. Draw the alkane with the name:

    2-sec-butyl-1,3-diethyl-6-isopropyl-1,4-dimethylcyclohexane

4. Rank the following alkanes by their:

   a) Boiling point

   ![Alkanes A, B, C]

   b) Melting point

   ![Alkanes A, B]
5. The following molecule CH₃(CH₂)₆CH₃ has a boiling point of 126°C and melting point of -57°C, while the molecule (CH₃)₃CC(CH₃) has a boiling point of 102°C and melting point of 106°C. Explain why one isomer has a lower boiling point but a higher melting point.

6. a) 

![Schematic image of compound transformation](image)

b) 

![Schematic image of compound transformation](image)

c) 

![Schematic image of compound transformation](image)

7. a. Draw two Newman projections centered on the indicated bond for this molecule, one in staggered conformation and one in eclipsed.
b. Draw the skeletal structure of the molecule depicted in this Newman projection.