

Friday Worksheet

Name:

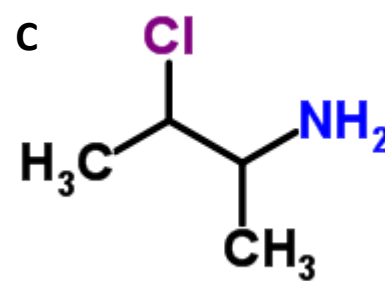
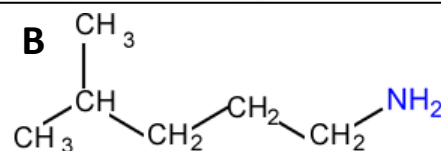
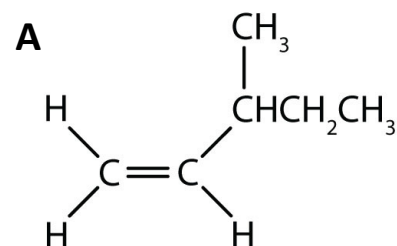
Organic worksheet 2

- 1) Give the systematic IUPAC name for the molecules shown on the right.

A) 3-methylpent-1-ene

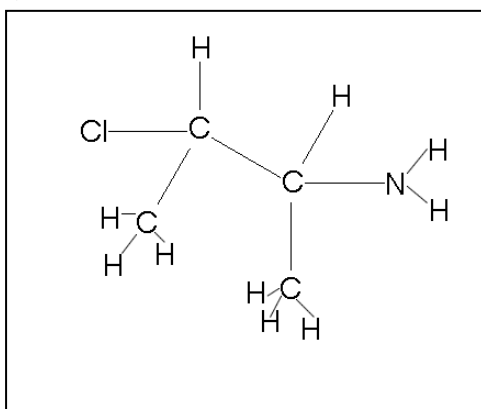
B) 4-methylpentan-1-amine
or
4-methylpentanamine

C) 3-chlorobutan-2-amine

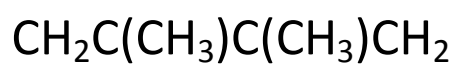
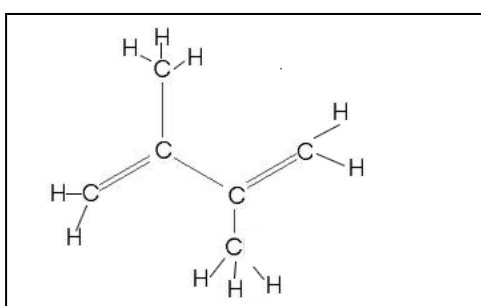


- 2) Give the structural and semi-structural formulae of the following molecules.

a) 3-chlorobutan-2-amine



b) 2,3-dimethyl-1,3-butadiene



3) 1.35 g of an alkene that contains two double bonds per molecule reacted completely with 8.0 g of bromine, Br₂. The molar mass of bromine, Br₂, is 160 g mol⁻¹. Which one of the following is the molecular formula of the alkene? Explain how you arrived at your choice. Show all working out.

a) C₃H₄,

b) C₄H₆,

c) C₅H₈,

d) C₆H₁₀

Since each molecule of the alkene contains two C=C bonds

$$n(\text{alkene}) = \frac{1}{2} n(\text{Br}_2)$$

$$n(\text{Br}_2) = 8.0/160 = 0.050$$

$$n(\text{alkene}) = \frac{1}{2} \times 0.050 = 0.025$$

$$\text{Molar mass of the alkene} = 1.35 / 0.025 = 54 \text{ g mol}^{-1}$$

Option b) C₄H₆,

b) Draw structural formulae and name each isomer of the alkene.

