## **ALKANES NOMENCLATURE**

Name the following compounds using IUPAC Rules

Give the structure (expanded form) for each of the following Alkanes.

ĊH3

1. a. heptane

ċн<sub>3</sub>

- b. 3-ethylhexane
- c. 4-propylnonane
- d. 2,6-dimethyloctane
- e. methylbutane
- 2. a. 2,3,3-trimethylpentane
  - b. 3-ethyl-2-methylhexane
  - c. 4,4-diethyl-2,2-dimethylheptane
  - d. 6-butyl-4,6-dipropylundecane
  - e. 3-ethyl-5-methyl-4-propyldecane
- 3. a. 2,4,6,8,10-pentamethyldodecane
  - b. 6,6-diethyl-2,3,5-trimethyl-5-butylnonane
  - c. propane
  - d. 3,3,4,4-tetraethylhexane
  - e. 6-pentylundecane

4. Give the IUPAC name the following compounds

$$^{\text{CH}_{3}-\text{CH}}_{\overset{\text{CH}_{2}-\text{CH}_{2}-\text{CH}_{2}-\text{CH}_{3}}{\overset{\text{CH}_{3}-\text{CH}_{2}-\text{CH}_{2}-\text{CH}_{2}-\text{CH}_{2}-\text{CH}_{3}}{\overset{\text{CH}_{3}}{\overset{\text{CH}_{3}}{\overset{\text{CH}_{3}}{\overset{\text{CH}_{3}-\text{CH}_{2}-\text{CH}_{2}-\text{CH}_{2}-\text{CH}_{3}}{\overset{\text{CH}_{3}}{\overset{\text{CH}_{3}-\text{CH}_{3}-\text{CH}_{3}-\text{CH}_{3}}{\overset{\text{CH}_{3}-\text{CH}_{3}-\text{CH}_{3}-\text{CH}_{3}-\overset{\text{CH}_{3}-\text{CH}_{2}-\text{CH}_{2}-\text{CH}_{2}-\overset{\text{CH}_{3}-\text{CH}_{2}-\text{CH}_{2}-\overset{\text{CH}_{3}-\text{CH}_{3}-\overset{\text{CH}_{3}-\text{CH}_{3}-\overset{\text{CH}_{3}-\text{CH}_{3}-\overset{\text{CH}_{3}-\text{CH}_{2}-\overset{\text{CH}_{3}-\text{CH}_{2}-\overset{\text{CH}_{3}-\text{CH}_{3}-\overset{\text{CH}_{3}-\overset{\text{CH}_{3}-\text{CH}_{3}-\overset{\text{CH}_{3}-\overset{\text{CH}_{3}-\text{CH}_{3}-\overset{C}}{\overset{C}}}}{$$

$$\begin{array}{c} {\rm CH_3-CH_2-CH_2-CH_2-CH_3} \\ {\rm CH_2-CH_3} \end{array}$$

$$^{\mathrm{CH_{3}-CH-CH-CH_{2}-CH_{3}}}_{\ \ ^{\mathrm{CH_{3}-CH_{2}-CH_{3}}}}$$

$$\begin{smallmatrix} \mathrm{CH_3} & \mathrm{CH_3} \\ \mathrm{CH_3-C-CH_2-CH-CH_3} \end{smallmatrix}$$

$$^{\mathrm{CH}_{3}}_{\mathrm{CH}_{3}-\mathrm{CH}-\mathrm{CH}-\mathrm{CH}_{2}-\mathrm{CH}_{3}}$$

$$^{\mathrm{CH}_3}_{\mathrm{CH}_3-\mathrm{CH}_2-\mathrm{CH}_2-\mathrm{CH}_2-\mathrm{CH}_3}$$

$$^{\mathrm{CH_{3}}}_{\mathrm{CH_{3}-CH_{2}-CH-CH-CH-CH_{3}}}$$