1. Provide IUPAC names for these structures. (2 points each)

   a. \( \text{2,3-dimethylhexane} \)
   
   b. \( \text{1-methyl-5-propylcyclohexa-1,4-diene} \)
   
   c. \( \text{4-ethyl-2,5-dimethylcycloct-1-ene} \)
   
   d. \( \text{6-methylcycloct-2-ene-4-yn} \)

2. Provide structures for these compounds (1 point each)

   a. (1-methylethyl)cycloheptane

   b. \( \text{sec-butylcyclohexane} \)