1. a. 7 carbons, heptane    b. 7 carbons, heptane    c. 8 carbons, octane    d. 8 carbons, octane
2. a. 3-methylhexane    b. 4-ethylheptane    c. 3-ethyloctane    d. 2-methylhexane
   e. 4-methylnonane    f. 3-methylheptane
3. 
   (a) CH₃-CH₂-CH-CH₂-CH₂-CH₃   (b) CH₃-CH₂-CH₂-CH₂-CH₂-CH₂-CH₃
   (c) CH₃-CH₂-CH₂-CH₂-CH₃     (d) CH₃-CH₂-CH₂-CH₂-CH₂-CH₂-CH₃
   (e) CH₃-CH₂-CH₂-CH₂-CH₂-CH₃   (f) CH₃CH₂CH₂CH₂CH₂CH₂CH₂CH₂CH₂
4. a. the longest chain is actually heptane and it was numbered backwards
   b. the longest chain is actually hexane
   c. the second carbon from the left should only have 2 hydrogens attached
   d. the central carbon is making 5 bonds, so should not have a hydrogen attached
5. 
   a) CH₃CH₂CH₂CH₂CH₃    b) CH₃CH₂CH₂CH₂CH₂CH₂CH₃
   (c) CH₃CH₂CH₂CH₂CH₂CH₃   (d) CH₃C-CH₂CH₃
   (e) CH₃CH₂CH₂CH₂CH₃    (f) CH₃CH₂CH₂CH₂CH₂CH₃
   (g) CH₃CCH₃    (h) CH₃CH₃CH₂CH₂CH₃
6. a. 3,4-dimethylheptane b. 3,4,4,5-tetraethylheptane c. 2,2,7,7-tetramethyloctane
d. 3-ethyl-4,5-dimethylheptane e. 4-ethyl-4-methyloctane f. 2,2,5-trimethyloctane
g. 4,6-dimethylnonane h. decane i. 4,5-diethyl-3,7-dimethylnonane
j. 3,3,4,5-tetramethyloctane k. 4-ethyl-3-methyl-5-propyloctane
l. 3,6-diethyl-5,8-dimethyldecane