Biochemistry practice:

1. What would be the molecular formula of a molecule made by linking 5 glucose molecules together?
2. The R-group, or side chain, of the amino acid serine is –CH2-OH. The R-group, or side chain, of the amino acid leucine is –CH-(CH3)2. Where would you expect to find these amino acids in a globular protein located in an aqueous solution?
3. If a DNA sample were composed of 10% thymine, what would be the percentage of guanine?
4. How many peptide bonds are there in a pentapeptide?
5. How many molecules of water would be needed to separate all monomers in a polysaccharide composed of 8 simple sugars?
6. How many possible tripeptides can be made with the amino acids tyrosine, histidine and cysteine, if each peptide must contain all 3?
7. How many dipeptides can be made from the 20 amino acids?
8. If 500 glucose molecules are used to make starch, how many molecules of water would be produced in the condensation reactions?
9. If a cellulose molecule consisted of 2000 glucose units, how many carbon, oxygen and hydrogen atoms would it contain?

Identify the following molecules:

10.



11.



12.



13.



14.



Identify the following amino acids as polar/nonpolar, and acidic or basic if applicable.

15. 

16.

17. 