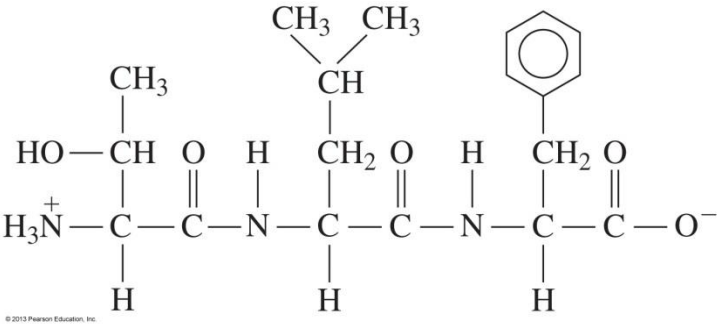
Proteins Worksheet

1. The segment, His-Gly-Arg-Lys, describes the _____ structure of the protein.

2. The α-helix describes the _____ level of protein structure?

3. Not all proteins will have a _____ level of structure.

4. Answer each of the following questions for the peptide that is shown:



   a. What is the N-terminal amino acid?

   b. What is the C-terminal amino acid?

   c. Use the three-letter and one-letter abbreviations to give the amino acid order of the peptide..

5. What type of interaction would you expect between the R groups of the following amino acids in a tertiary structure?
   a. cysteine and cysteine

   b. aspartic acid and lysine

   c. glycine and alanine

6. The primary structure of a protein contains which functional group?

7. What happens to the tertiary structure of a globular protein when it is placed in an acidic solution?

Answers

1. primary

2. secondary

3. quarternary

4.
   a. threonine
   b. phenylalanine
   c. Thr-Val-Phe and TVF

5.
   a. disulfide
   b. salt bridge
   c. hydrophobic (nonpolar interaction)

6. amide (peptide bond)

7. Protein becomes denatured because the salt bridges (and hydrophilic) interactions are disrupted causing the protein to unfold.