1. **Read the article and choose from the list A-H the best phrase to fill each of the spaces 1-8.**

PROTEINS

Adapted from http://en.wikipedia.org/wiki/Protein

Most proteins consist of linear polymers built **1.** ..... All proteinogenic amino acids possess common structural features, including an α-carbon to which an amino group, a carboxyl group, and **2.** ..... Only proline differs from this basic structure as it contains an unusual ring to the N-end amine group, which forces the CO–NH amide moiety into a fixed conformation. The side chains of the standard amino acids have **3.** .....; it is the combined effect of all of the amino acid side chains in a protein that ultimately determines **4.** ..... and its chemical reactivity.

The amino acids in a polypeptide chain are linked **5.** ..... Once linked in the protein chain, an individual amino acid is called a *residue,* and the linked series of carbon, nitrogen, and oxygen atoms are known as **6.** ..... . The peptide bond has two resonance forms that contribute some double-bond character and inhibit rotation around its axis, so that the alpha carbons are roughly coplanar. The other two dihedral angles in the peptide bond determine **7.** ..... . The end of the protein with a free carboxyl group is known as the C-terminus or carboxyl terminus, whereas the end with a free amino group is known as **8.** ..... .

A. the *main chain* or *protein backbone*
B. a great variety of chemical structures and properties
C. the N-terminus or amino terminus
D. a variable side chain are bonded
E. by peptide bonds
F. from series of up to 20 different L-α-amino acids
G. the local shape assumed by the protein backbone
H. its three-dimensional structure

2. **Now read the sentences and complete the spaces with appropriate words:**

a. Most proteins consist of _ _ _ _ _ _ polymers built from _ _ _ _ _ _ of up to 20 different L-α-amino acids.

b. The amino acids in a _ _ _ _ _ _ _ _ _ _ _ _ chain are _ _ _ _ _ _ by peptide bonds.

c. The peptide bond has two _ _ _ _ _ _ _ _ _ forms that contribute some double-bond character and _ _ _ _ _ _ _ rotation around its _ _ _ _.

d. The end of the protein with a free carboxyl group is known as the carboxyl _ _ _ _ _ _ _ _.