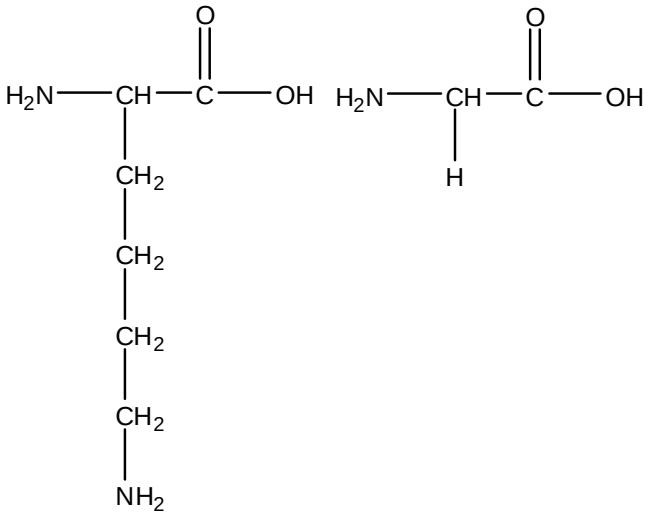
CHEM 3.5 Worksheet 9 Amino acids and proteins Name _____

Two amino acids lysine and glycine can form three possible dipeptides.



Lysine Glycine

a) Draw the three possible dipeptides with a short description of why there are three possibilities.

b) For one of the dipeptides, draw the products for hydrolysis under acidic condition. Write a short description on what would be the difference if hydrolysis is under basic condition.

c) **Discuss** optical isomerism using Lysine and Glycine as an example. Your discussion should include
    - Definition of optical isomers
    - The condition(s) required for optical isomerism
    - A 3D diagram on the possible enantiomer pair
    - Comparison of physical and chemical properties