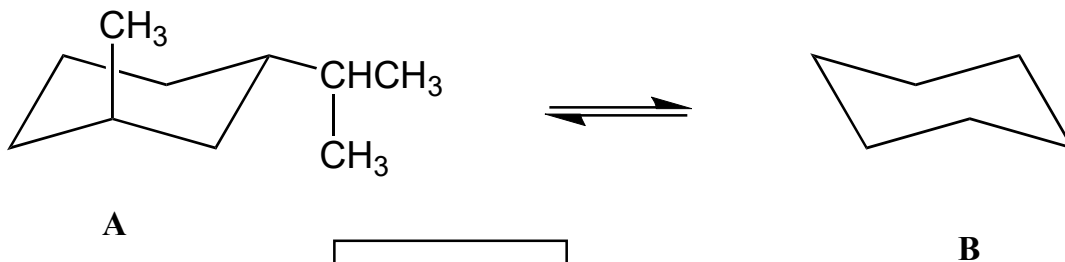


4A. (8 pts) Shown below is a chair conformation of a substituted cyclohexane (**A**). Using the chair given below, draw the other chair conformation (**B**).



Is **A** the cis or trans isomer?

Which conformer (**A**, **B** or neither) predominates at equilibrium? Explain fully, using drawings above.

4B. (12 pts) What is the relationship of the following pairs of compounds?

1 and 2 _____

3 and 4 _____

5 and 6 _____

7 and 8 _____

A) constitutional (structural) isomers

B) enantiomers

C) diastereomers

D) the same compound

E) unrelated

