p. 734-736

CHE 102 - Homework - Ch 27b
Carbohydrates - Haworth

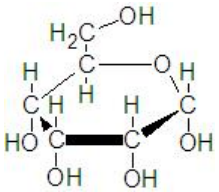
Score: _____/40

Name: _____ Date: _____

[5 pt] 1. What is an anomer? What designation do we use to tell them apart? Draw an example showing the anomers of D-Glucose. Be sure to label them properly.

[5 pt] 2. What is meant by the term Mutarotation. Draw an arrow in the previous question pointing to any carbon atoms capable of mutarotation.

[5 pt] 3. Answer the following questions about the given Haworth structure of D-Allose



(a) Circle the OH group that determines whether the molecules is α or β anomer

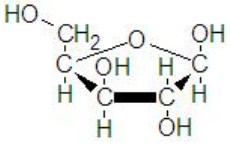
(b) Is this the α or β anomer? 3(b) _____

(c) Draw an arrow to **AND** label any hemiacetal, acetal, hemiketal or ketal carbon(s).

(d) Is this a furanose or pyranose? 3(d) _____

(e) What is the name of the molecule 3(e) _____

[5 pt] 4. Answer the following questions about the given Haworth structure of D-Xylose



(a) Draw an arrow pointing to the carbon that determines whether the molecules is α or β anomer

(b) Is this the α or β anomer? 4(b) _____

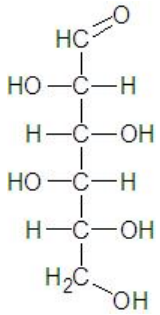
(c) Draw a circle around any hemiacetal carbon(s).

(d) Is this a furanose or pyranose? 4(d) _____

(e) What is the name of the molecule? 4(e) _____

CHE 102 - Homework - Ch 27b

[5 pt] 5. Draw the Haworth structure for D-idose.



(a) Draw an arrow pointing to the carbon that determines wether the molecules is α or β anomer

(b) Did you draw the α or β anomer? 5(b) _____

(c) Draw a circle around the hemiacetal carbon(s).

(d) What is the name of the molecule you drew? 5(d) _____

[5 pt] 6. Draw the cyclic structure for α-D-glucopyranose.

[5 pt] 7. Draw the cyclic structure for β-D-galactopyranose.

[5 pt] 8. Draw the cyclic structure for α-D-mannopyranose.