CHEM 131 carbohydrate worksheet

1. Show the hydrolysis products of the following disaccharides

a)

b)
2. Draw a disaccharide of Mannose and allose. Let the linkage be at C1 carbon of Mannose and the C4 carbon of allose. Draw both an α and β glycosidic linkages.

3. For the monosaccharide shown on the right, answer the following questions:
   a) Which carbon is the anomeric carbon? _____________
   b) Is the sugar drawn as the α- or the β-form? _____________
c) When the sugar is in the open chain form, which carbon determines, if the sugar is L or D? ___________

d) When the sugar is in the open chain form, does this sugar contain a ketone or an aldehyde? __________

4. For each of the following disaccharide, determine the nature of the glycosidic linkage (ex: α (1→4)).

a) 

b) 

Draw the two sugars that result from hydrolysis of the disaccharide shown in b).
5. For the following disaccharides, answer the following questions.

**Compound A**

**Compound B**
<table>
<thead>
<tr>
<th>Question</th>
<th>Compound A</th>
<th>Compound B</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) What type of glycosidic linkage exists?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>b) Can at least one of the monosaccharide components exist as the open ring structure?</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>