

Preclass Assignment

CHEM 1100-General Chemistry I

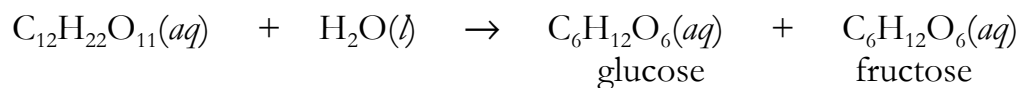
Name:

#6

Section: 31, MWF

Due Date: Wednesday 7/26/2017

1. The acid-catalyzed hydrolysis of sucrose is a first-order reaction:



At 22 °C, the rate constant is $1.6 \times 10^{-4} \text{ 1/s}$. How long, in hours, would it take for the concentration to decrease to 0.010 M if the initial concentration was 0.10 M?

2. The decomposition of hydrogen iodide is a second-order reaction:



The rate constant for this process is $5.13 \times 10^{-4} \frac{1}{\text{M s}}$ at 410 °C. If the initial concentration of hydrogen iodide is 0.250 M, calculate the new concentration after 2.00 hours.