

**QUESTION:**

3. Which of the following reactions is an example of a pseudo first-order reaction?

- a)  $\text{H}_2 + \text{Br}_2 \rightarrow 2\text{HBr}$
- b)  $\text{CH}_3\text{CHO} \rightarrow \text{CH}_4 + \text{CO}$
- c)  $\text{C}_{12}\text{H}_{22}\text{O}_{11} + \text{H}_2\text{O} \rightarrow \text{glucose} + \text{fructose}$
- d)  $\text{PCl}_5 \rightarrow \text{PCl}_3 + \text{Cl}_2$

**ANSWER:**

Answer: c

Explanation: The order of the reaction may be sometimes altered sometimes by changing the conditions, for example, taking one or more reactants in excess compared to the other. The molecularity of inversion of cane sugar is 2 but follows first order kinetics because water is present in excess.