

Worksheet: Chemical Kinetics

Uttar Pradesh State Board · Class 12 · Chemistry · 5 questions · 13 marks

Name: _____

Date: _____

Score: _____ / 13

Q1. The half-life of a reaction is inversely proportional to the initial concentration. What is the order? [2 marks]

Q2. A first-order reaction has $k = 1.0 \times 10^{-3} \text{ s}^{-1}$. Find t_{half} and the time for 75% completion. [3 marks]

Q3. A zero-order reaction has $k = 0.04 \text{ mol/L/s}$ with initial concentration 1 M. Find t_{half} and time for 90% completion. [3 marks]

Q4. Doubling [A] doubles the rate; doubling [B] quadruples it. Write the rate law and overall order. [2 marks]

Q5. $k = 2.0 \times 10^{-3} \text{ s}^{-1}$ at 300 K and $8.0 \times 10^{-3} \text{ s}^{-1}$ at 400 K. Find E_a . [3 marks]
