

Name _____

Period _____

Chemistry
Kinetics Practice Test

Form P

Part I: General Terms: Define the following terms with the definition that a chemist would use.

Chemical Kinetics

Reaction Rate

Rate

Time

Mechanism

Rate Determining Step

Catalyst

Promoter

Inhibitor

Order of Reaction

Activated Complex

Transition State/Intermediate

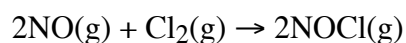
Rate Constant

Activation Energy

Rate Law

Part II: Questions about Rates

1. For the reaction of nitric oxide with chlorine gas:



The observed rate law is:

$$R = k[\text{NO}]^2[\text{Cl}_2]$$

What is the reaction order with respect to NO?, Cl₂?, and overall?

2. Explain how a catalyst can lower the activation energy of a chemical reaction. Use a diagram and some big words to explain this effect.

3. Explain in detail how one of the factors that affect reaction rates can speed up a reaction.

4. What are the six factors that can affect reaction rate? How do they do it?

Part III: Graphs

Draw a diagram of potential energy versus extent of reaction for an endothermic reaction and a second one for an exothermic reaction. Label ΔH , reactants, products, transition state, and activation energy.