

Name: _____ Entry No.: _____ A

1. If the elementary step $A \longrightarrow B$ has a reaction enthalpy of -50 kJ and an activation energy of 10 kJ , the activation energy for the reverse step is _____.
2. The reaction $A + B \longrightarrow C + D$ is first order in A and second order in B. If $[A]$ is halved and $[B]$ is doubled, the rate of the reaction is _____.
3. Under certain conditions, the average rate of appearance of oxygen gas in the reaction $2 \text{O}_3(\text{g}) \longrightarrow 3 \text{O}_2(\text{g})$ is $1.2 \times 10^{-3} \text{ atm/sec}$. The average rate, expressed in atm/sec , for the disappearance of O_3 is _____.
4. If the integrated rate law for a reaction is $\frac{1}{[A]} = \frac{1}{[A]_0} + kt$, the expression for the half-life is _____.
5. For the mechanism $A \longrightarrow B \longrightarrow C$, the expression for rate of formation of B, $\frac{d[B]}{dt}$, is _____.
6. Many enzyme reactions follow the Michaelis-Menten rate law, $\text{rate} = \frac{V[S]}{K_m + [S]}$, where V and K_m are constants and $[S]$ is the concentration of the substrate that is reacting. When $[S] \gg K_m$, the apparent order of the reaction is _____.
7. If the collisional dissociation of I_2 proceeds by the elementary process $2 \text{I}_2(\text{g}) \longrightarrow 2 \text{I}(\text{g}) + \text{I}_2(\text{g})$, the expression for rate of formation of $\text{I}(\text{g})$ is _____.
8. For the reaction $A \longrightarrow B$, the rate of formation of B is directly proportional to the molar concentration of A. The integrated rate expression is _____.
9. A radioactive isotope of copper, ^{64}Cu , decays according to $^{64}\text{Cu} \longrightarrow ^{64}\text{Zn} + \beta$. The half-life for the reaction is 12.8 hours. Starting from 100 g of ^{64}Cu , the amount of ^{64}Zn produced in 25.6 hours is _____.
10. A plot of reactant concentration as a function of time gives a straight line. The order of the reaction is _____.

Name: _____ Entry No.: _____ B

1. A radioactive isotope of copper, ^{64}Cu , decays according to $^{64}\text{Cu} \longrightarrow ^{64}\text{Zn} + \beta$. The half-life for the reaction is 12.8 hours. Starting from 100 g of ^{64}Cu , the amount of ^{64}Zn produced in 25.6 hours is _____.
2. A plot of reactant concentration as a function of time gives a straight line. The order of the reaction is _____.
3. If the elementary step $\text{A} \longrightarrow \text{B}$ has a reaction enthalpy of -50 kJ and an activation energy of 10 kJ , the activation energy for the reverse step is _____.
4. For the mechanism $\text{A} \longrightarrow \text{B} \longrightarrow \text{C}$, the expression for rate of formation of B, $\frac{d[\text{B}]}{dt}$, is _____.
5. Under certain conditions, the average rate of appearance of oxygen gas in the reaction $2 \text{O}_3(\text{g}) \longrightarrow 3 \text{O}_2(\text{g})$ is $1.2 \times 10^{-3} \text{ atm/sec}$. The average rate, expressed in atm/sec , for the disappearance of O_3 is _____.
6. Many enzyme reactions follow the Michaelis-Menten rate law, $\text{rate} = \frac{V[\text{S}]}{K_m + [\text{S}]}$, where V and K_m are constants and $[\text{S}]$ is the concentration of the substrate that is reacting. When $[\text{S}] \gg K_m$, the apparent order of the reaction is _____.
7. If the integrated rate law for a reaction is $\frac{1}{[\text{A}]} = \frac{1}{[\text{A}]_0} + kt$, the expression for the half-life is _____.
8. The reaction $\text{A} + \text{B} \longrightarrow \text{C} + \text{D}$ is first order in A and second order in B. If $[\text{A}]$ is halved and $[\text{B}]$ is doubled, the rate of the reaction is _____.
9. If the collisional dissociation of I_2 proceeds by the elementary process $2 \text{I}_2(\text{g}) \longrightarrow 2 \text{I}(\text{g}) + \text{I}_2(\text{g})$, the expression for rate of formation of $\text{I}(\text{g})$ is _____.
10. For the reaction $\text{A} \longrightarrow \text{B}$, the rate of formation of B is directly proportional to the molar concentration of A. The integrated rate expression is _____.

Name: _____ Entry No.: _____ C

1. For the mechanism $A \longrightarrow B \longrightarrow C$, the expression for rate of formation of B, $\frac{d[B]}{dt}$, is _____.
2. The reaction $A + B \longrightarrow C + D$ is first order in A and second order in B. If [A] is halved and [B] is doubled, the rate of the reaction is _____.
3. A radioactive isotope of copper, ^{64}Cu , decays according to $^{64}\text{Cu} \longrightarrow ^{64}\text{Zn} + \beta$. The half-life for the reaction is 12.8 hours. Starting from 100 g of ^{64}Cu , the amount of ^{64}Zn produced in 25.6 hours is _____.
4. If the collisional dissociation of I_2 proceeds by the elementary process $2\text{I}_2(\text{g}) \longrightarrow 2\text{I}(\text{g}) + \text{I}_2(\text{g})$, the expression for rate of formation of $\text{I}(\text{g})$ is _____.
5. A plot of reactant concentration as a function of time gives a straight line. The order of the reaction is _____.
6. Under certain conditions, the average rate of appearance of oxygen gas in the reaction $2\text{O}_3(\text{g}) \longrightarrow 3\text{O}_2(\text{g})$ is 1.2×10^{-3} atm/sec. The average rate, expressed in atm/sec, for the disappearance of O_3 is _____.
7. If the integrated rate law for a reaction is $\frac{1}{[A]} = \frac{1}{[A]_0} + kt$, the expression for the half-life is _____.
8. If the elementary step $A \longrightarrow B$ has a reaction enthalpy of -50 kJ and an activation energy of 10 kJ, the activation energy for the reverse step is _____.
9. Many enzyme reactions follow the Michaelis-Menten rate law, $\text{rate} = \frac{V[S]}{K_m + [S]}$, where V and K_m are constants and $[S]$ is the concentration of the substrate that is reacting. When $[S] \gg K_m$, the apparent order of the reaction is _____.
10. For the reaction $A \longrightarrow B$, the rate of formation of B is directly proportional to the molar concentration of A. The integrated rate expression is _____.

Name: _____ Entry No.: _____ D

1. A radioactive isotope of copper, ^{64}Cu , decays according to $^{64}\text{Cu} \longrightarrow ^{64}\text{Zn} + \beta$. The half-life for the reaction is 12.8 hours. Starting from 100 g of ^{64}Cu , the amount of ^{64}Zn produced in 25.6 hours is _____.
2. Many enzyme reactions follow the Michaelis-Menten rate law, $\text{rate} = \frac{V[\text{S}]}{K_m + [\text{S}]}$, where V and K_m are constants and $[\text{S}]$ is the concentration of the substrate that is reacting. When $[\text{S}] \gg K_m$, the apparent order of the reaction is _____.
3. A plot of reactant concentration as a function of time gives a straight line. The order of the reaction is _____.
4. Under certain conditions, the average rate of appearance of oxygen gas in the reaction $2\text{O}_3(\text{g}) \longrightarrow 3\text{O}_2(\text{g})$ is 1.2×10^{-3} atm/sec. The average rate, expressed in atm/sec, for the disappearance of O_3 is _____.
5. If the integrated rate law for a reaction is $\frac{1}{[\text{A}]} = \frac{1}{[\text{A}]_0} + kt$, the expression for the half-life is _____.
6. If the elementary step $\text{A} \longrightarrow \text{B}$ has a reaction enthalpy of -50 kJ and an activation energy of 10 kJ, the activation energy for the reverse step is _____.
7. The reaction $\text{A} + \text{B} \longrightarrow \text{C} + \text{D}$ is first order in A and second order in B. If $[\text{A}]$ is halved and $[\text{B}]$ is doubled, the rate of the reaction is _____.
8. If the collisional dissociation of I_2 proceeds by the elementary process $2\text{I}_2(\text{g}) \longrightarrow 2\text{I}(\text{g}) + \text{I}_2(\text{g})$, the expression for rate of formation of $\text{I}(\text{g})$ is _____.
9. For the reaction $\text{A} \longrightarrow \text{B}$, the rate of formation of B is directly proportional to the molar concentration of A. The integrated rate expression is _____.
10. For the mechanism $\text{A} \longrightarrow \text{B} \longrightarrow \text{C}$, the expression for rate of formation of B, $\frac{d[\text{B}]}{dt}$, is _____.

Name: _____ Entry No.: _____ E

1. Many enzyme reactions follow the Michaelis-Menten rate law, $\text{rate} = \frac{V[S]}{K_m + [S]}$, where V and K_m are constants and $[S]$ is the concentration of the substrate that is reacting. When $[S] \gg K_m$, the apparent order of the reaction is _____.
2. The reaction $A + B \longrightarrow C + D$ is first order in A and second order in B . If $[A]$ is halved and $[B]$ is doubled, the rate of the reaction is _____.
3. Under certain conditions, the average rate of appearance of oxygen gas in the reaction $2\text{O}_3(\text{g}) \longrightarrow 3\text{O}_2(\text{g})$ is 1.2×10^{-3} atm/sec. The average rate, expressed in atm/sec, for the disappearance of O_3 is _____.
4. If the collisional dissociation of I_2 proceeds by the elementary process $2\text{I}_2(\text{g}) \longrightarrow 2\text{I}(\text{g}) + \text{I}_2(\text{g})$, the expression for rate of formation of $\text{I}(\text{g})$ is _____.
5. A plot of reactant concentration as a function of time gives a straight line. The order of the reaction is _____.
6. For the reaction $A \longrightarrow B$, the rate of formation of B is directly proportional to the molar concentration of A . The integrated rate expression is _____.
7. If the integrated rate law for a reaction is $\frac{1}{[A]} = \frac{1}{[A]_0} + kt$, the expression for the half-life is _____.
8. For the mechanism $A \longrightarrow B \longrightarrow C$, the expression for rate of formation of B , $\frac{d[B]}{dt}$, is _____.
9. A radioactive isotope of copper, ^{64}Cu , decays according to $^{64}\text{Cu} \longrightarrow ^{64}\text{Zn} + \beta$. The half-life for the reaction is 12.8 hours. Starting from 100 g of ^{64}Cu , the amount of ^{64}Zn produced in 25.6 hours is _____.
10. If the elementary step $A \longrightarrow B$ has a reaction enthalpy of -50 kJ and an activation energy of 10 kJ, the activation energy for the reverse step is _____.