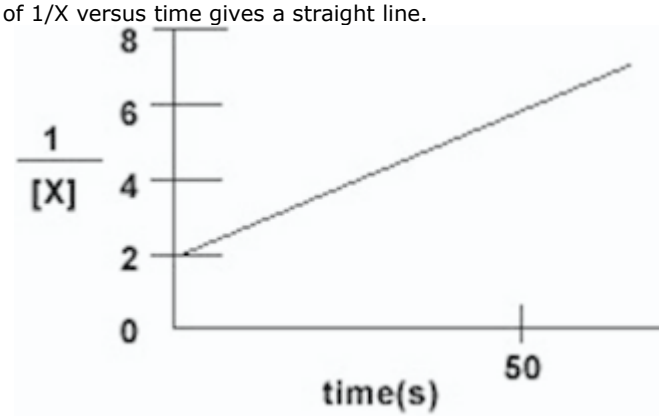
1. **014 Chapter #080**

The rate of a reaction is determined by the rate of the fastest step in the mechanism.

	Student Response
a.	TRUE
b.	FALSE

2. **014 Chapter #050**

For the reaction X + Y → Z, the reaction rate is found to depend only upon the concentration of X. A plot of 1/X versus time gives a straight line.



What is the rate law for this reaction?

	Student Response
a.	rate = k [X]
b.	rate = k $[X]^2$
c.	rate = k [X][Y]
d.	rate = k $[X]^2[Y]$
e.	rate = k $[X]^2/[Y]$

3. **014 Chapter #070**

The activation energy for the following reaction is 60. kJ/mol.
$Sn^{2+} + 2Co^{3+} \rightarrow Sn^{4+} + 2Co^{2+}$
By what factor (how many times) will the rate constant increase when the temperature is raised from 10°C to 28°C (R = 8.314 J/mol K)?

	Student Response
a.	1.002
b.	4.6
c.	5.6
d.	2.8
e.	696

4. **014 Chapter #030**

A first-order reaction has a rate constant of $3.00 \times 10^{-3}\ s^{-1}$. The time required for the reaction to be 75.0% complete is:

	Student Response
a.	95.8 s.
b.	462 s.
c.	231 s.
d.	201 s.
e.	41.7 s.

5. **014 Chapter #060**

What is the slope of a plot of ln k versus 1/T for the Arrhenius equation $k=Ae^{-(Ea/RT)}$?

	Student Response
a.	A
b.	-k
c.	$-E_a/R$
d.	k
e.	E_a

6. **014 Chapter #020**

Sulfuryl chloride, $SO_2Cl_2(g)$, decomposes at high temperature to form $SO_2(g)$ and $Cl_2(g)$. The rate constant at a certain temperature is $4.68 \times 10^{-5} s^{-1}$. What is the order of the reaction?

	Student Response
a.	zero
b.	first

c.	second
d.	third
e.	More information is needed to determine the overall order.

7. **014 Chapter #085**

The units of the rate of reaction depend on the order of the reaction.

	Student Response
a.	TRUE
b.	FALSE

8. **014 Chapter #001**

What are the units for the reaction rate?

	Student Response
a.	L mol^{-1} s^{-1}
b.	L^2 mol^{-2} s^{-1}
c.	s^{-1}
d.	s^{-2}
e.	mol L^{-1} s^{-1}

9. **014 Chapter #010**

The reaction A + 2B → products was found to have the rate law, rate = k[A] $[B]^2$. Predict by what factor the rate of reaction will increase when the concentration of A is doubled and the concentration of B is also doubled.

	Student Response
a.	2
b.	4
c.	6
d.	8
e.	9

10. **014 Chapter #040**

Nitric oxide gas (NO) reacts with chlorine gas according to the equation
NO + ½Cl_2 → NOCl. The following initial rates of reaction have been measured for the given reagent concentrations.

Expt. #	Rate (M/hr)	NO (M)	Cl_2 (M)
1	1.19	0.50	0.50
2	4.79	1.00	0.50
3	9.59	1.00	1.00

Which of the following is the rate law (rate equation) for this reaction?

Student Response
a. rate = k[NO]
b. rate = $k[NO][Cl_2]^{1/2}$
c. rate = $k[NO][Cl_2]$
d. rate = $k[NO]^2[Cl_2]$
e. rate = $k[NO]^2[Cl_2]^2$