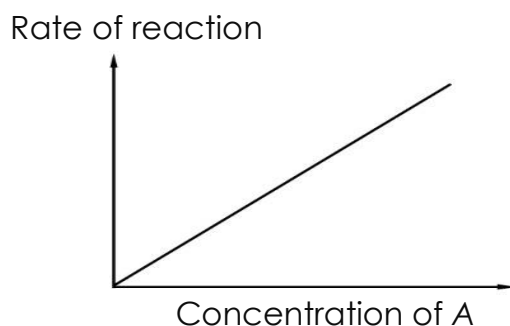


Quiz (Rate Law 1)

1. A reaction has the following rate equation:
 $\text{rate} = k[A][B]^3[C]^2$

What is the overall order of the reaction?

- A. 4
 B. 5
 C. 6
 D. 7
2. Consider the following reaction:
 $Q_2(g) + R_2(g) \rightarrow 2QR(g)$
- The order of reaction with respect to Q_2 is 1 and the overall order of reaction is 2. Which of the following is the rate equation for the reaction?
- A. $\text{Rate} = k[Q_2(g)][QR(g)]$
 B. $\text{Rate} = k[Q_2(g)][R_2(g)]$
 C. $\text{Rate} = k[Q_2(g)]$
 D. $\text{Rate} = k[R_2(g)]^2$
3. Given that the unit of the rate of reaction is $\text{mol dm}^{-3} \text{s}^{-1}$. What is the unit of the rate constant, k , for the following rate equation?
 $\text{Rate} = k[A][B][C]^2$
- A. $\text{mol dm}^{-3} \text{s}^{-1}$
 B. $\text{mol}^{-1} \text{dm}^3 \text{s}^{-1}$
 C. $\text{mol}^{-3} \text{dm}^9 \text{s}^{-1}$
 D. $\text{mol}^{-4} \text{dm}^{12} \text{s}^{-1}$
4. A rate-concentration graph of the reaction is shown in the following diagram.
 $A \rightarrow \text{products}$



What is the order of reaction with respect to A?

- A. Zeroth order
 B. First order
 C. Second order
 D. Cannot be determined
5. Given that $[A]$ is the concentration of the reactant A at any particular time. Which of the following graphs would give a straight line?
- (1) $[A]$ against time for a zeroth order reaction
 (2) $[A]$ against time for a first order reaction
 (3) Rate against $[A]^2$ for a second order reaction
- A. (1) and (2) only
 B. (1) and (3) only
 C. (2) and (3) only
 D. (1), (2) and (3)

