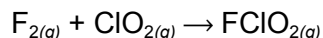


Directions: Choose the letter that corresponds to the correct answer.

1. Which of the following statements is/are TRUE for the reaction shown below if

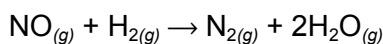
$$\frac{\Delta F_2}{\Delta t} = -0.28 \text{ M/s?}$$



- The rate of disappearance of F_2 is equal to the rate of formation of $FClO_2$.
- The rate of disappearance of ClO_2 is equal to the rate of formation of $FClO_2$.
- The rate of disappearance of F_2 is equal to the rate of disappearance of ClO_2 .
- All of the above
- None of the above

For numbers 2-4, refer to the data shown below.

At a certain temperature, the following data were obtained for the reaction of nitric oxide with hydrogen gas.



Experiment	[NO], M	[H ₂], M	Initial Rate, M/s
1	0.100	0.016	2.34×10^{-6}
2	0.100	0.032	4.68×10^{-6}
3	0.050	0.032	1.17×10^{-6}

2. What is the overall reaction order?
- 1
 - 2
 - 3

- d. 4
3. What will happen to the rate if the concentration of NO is doubled?
- There will be a two-fold increase in the rate.
 - There will be a four-fold increase in the rate.
 - The reaction rate will be reduced to half of the original rate.
 - The reaction rate will be reduced to a quarter of the original rate.
4. What will happen to the rate if the concentration of H₂ is halved?
- There will be a two-fold increase in the rate.
 - There will be a four-fold increase in the rate.
 - The reaction rate will be reduced to half of the original rate.
 - The reaction rate will be reduced to a quarter of the original rate.
5. Which of the following is/are TRUE for a zeroth-order reaction $A \rightarrow B$?
- The rate law expression is written as $\text{rate} = k[A]$
 - The plot of t against $[A]_t$ will give a graph with the highest r^2 .
 - Changes in the concentration of A do not affect the reaction rate.
 - All of the above
 - None of the above