

This reaction is second order. $k = 0.039 \text{ M}^{-1} \text{ s}^{-1}$

If it required 23.0 seconds for the concentration to decrease to 0.300 M, what was the starting concentration?

☐ $9.95 \times 10^{-1} \text{ M}$

☐ 7.296×10^{-1}

M

☐ 8.52 M

☐ $5.81 \times 10^{-1} \text{ M}$

☒ 0.410 M

☐ 1.48 M

☐ 2.97 M

☐ 3.21

For a given reaction, the rate constant, k , was determined at different temperatures. To obtain a linear graph, one should plot

☐ $\ln k$ vs $[A]$

☐ $\ln k$ vs. $\ln [A]$

☐ $\ln k$ vs. time

☐ k vs. $1/T$

☒ $\ln k$ vs. $1/T$

☐ k vs. time

☐ $1/T$ vs $1/[A]$

☐ $[A]$ vs T