

Answer on Question #68602 - Chemistry - Physical Chemistry

**Question:**

In 5 sec. 80% of reaction is complete. If reaction is 1st order then calculate rate constant.

**Answer:**

$$[A] = [A]_0 \cdot e^{-kt}$$
$$k = -\frac{\ln \frac{[A]}{[A]_0}}{t} = -\frac{\ln(0.2)}{5} = 0.322 \text{ (sec}^{-1}\text{)}$$