

Answers to the Exercises

ALE 3. Integrated Rate Laws

(Reference: 16.4 Silberberg 4th edition)

Exercises

3. N_2O_5 decomposes via 1st-order kinetics.

6 b. $8.3 \times 10^3 \text{ s}$

c. $2156 \text{ s} = 2200 \text{ s} = 36 \text{ min}$

8. $4.6 \times 10^{21} \text{ s} = 1.5 \times 10^{14} \text{ yr}$

9. b. $0.693/0.0012 \text{ yr}^{-1} = 577.5 \text{ yr} = 580 \text{ yr}$

c. $1250 \text{ yr} = 1200 \text{ yr}$

10. $k = 5.54 \times 10^{-10} \text{ yr}^{-1}$

$t = 1.09 \times 10^9 \text{ yr}$