PHAR533

Practical 1

Problem 1: Plot the following data on both standard rectangular coordinate

| **Time (minutes)** | **Drug A (mg)** |
| --- | --- |
| 10 | 96.0 |
| 20 | 89.0 |
| 40 | 73.0 |
| 60 | 57.0 |
| 90 | 34.0 |
| 120 | 10.0 |
| 130 | 2.5 |

a. Does the decrease in the amount of drug *A* appear to be a zero-order or a first-order process?

**b.** What is the rate constant *k*?

**c.** What is the half-life *t*1/2?

**d.** Does the amount of drug *A* extrapolate to zero on the *x* axis?

**e.** What is the equation for the line produced on the graph?

Problem 2: Plot the following data on both semilog graph paper and standard rectangular coordinates.

| **Time (minutes)** | **Drug A (mg)** |
| --- | --- |
| 4 | 70.0 |
| 10 | 58.0 |
| 20 | 42.0 |
| 30 | 31.0 |
| 60 | 12.0 |
| 90 | 4.5 |
| 120 | 1.7 |

a. Does the decrease in the amount of drug *A* appear to be a zero-order or a first-order process?

**b.** What is the rate constant *k*?

**c.** What is the half-life *t*1/2?

**d.** Does the amount of drug *A* extrapolate to zero on the *x* axis?

**e.** What is the equation for the line produced on the graph?