Decomposition of N2O5

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Worksheet for examining second order chemical reaction data for decomposition of N2O5.

```
> restart;
  with(plots) : #Load in plots package
  with(CurveFitting) : #Maple's curve fitting package
```

Times at which data was taken (seconds)

```
> times := [0, 600, 1200, 1800, 2400, 3000, 3600, 4200, 4800, 6000]; #Times, in seconds
```

N2O5 concentration, moles per liter at each time above

```
> data := [0.31, 0.254, 0.208, 0.172, 0.141, 0.116, 0.0964, 0.0812, 0.0669, 0.0464];
      #N2O5 concentrations, moles per liter
```

Number of data points

```
> N := nops(data)
```

Plot the data versus time. Call the plot "plot1".

```
> plot1 := pointplot([seq([times[j], data[j]], j = 1 ..N)], symbol = solidcircle, symbolsize = 20)
```

Does not look 0th order. Is it first order? Try a logarithmic transformation of the data, as was done for H2O2; see that worksheet.

```
>
```