**PROBLEM:**  Use the following data to solve the equation describing the relationship for a chemical reaction and compare the recorded versus computed data:





Use Matlab to create and plot both the calculated(dotted line) and recorded(diamonds) value c(ppm). Plot the function for t = 0 to 70. Add a labels for both axes and title.

**SOLUTION:**

Here is my script:

%% Problem 3

% Creates a plot displaying data and a function based on the data.

% Creates two arrays of already obtained data, one for the time(t) and one for the ppm(cdat)

clear all; close all; clc;

tdata = [10 20 30 40 50 60];

cdat = [3.4 2.6 1.6 1.3 1.0 0.5];

% Calculates the predicted ppm(ccalc)

tcalc = [0 10 20 30 40 50 60 70];

ccalc = 4.84 \* exp(-0.034.\*tcalc);

plot(tdata, cdat,'d', tcalc, ccalc,'--'); grid on; set(gca, 'GridLineStyle', '-');xlabel('Time(sec)'); ylabel('Parts Per Million(PPM)'); title('Chemical Reaction');

legend('PPM Recorded', 'PPM Calculated', 'Location', 'North');

And it’s output:

