

### Problem 4.3

#### Problem Purpose

This problem will help you determine whether you have mastered the learning objectives for this unit.

#### Problem Statement

A reaction was studied at the temperatures listed in the Table below, and at each temperature the value of the first-order rate coefficient was determined. On the basis of the information provided in the table, does the rate coefficient display Arrhenius temperature dependence? If it does, what are the values of the pre-exponential factor and the activation energy?

$T$ ( $^{\circ}F$ )	$k$ ( $s^{-1}$ )
76.7	1.12E-05
92.9	3.63E-05
114.5	1.15E-04
132.5	3.26E-04
148.7	8.92E-04