Homework Assignment #4

1. Problem 5.4, Page 243

2. Problem 6.3. Page 275

3. Data have been reported for the refractive index of borosilicate crown glass at various wavelengths of light. These are presented in the table below.

Wavelength - λ (Å)	Refractive Index - n
6563	1.50883
6439	1.50917
5890	1.51124
5338	1.51386
5086	1.51534
4861	1.51690
4340	1.52136
3988	1.52546

Use regression to determine the parameters in Cauchy's equation for refractive index shown below.

$$n = A + \frac{B}{\lambda^2} + \frac{C}{\lambda^4}$$

Also, fit an appropriate polynomial to the data. Evaluate whether the polynomial or Cauchy's equation provide the best fit.