COMPLEX ANALYSIS, HW # 7

Chapter 4, problems 47, 48, 51, 54, 58, and these problems:

Problem 1.

Evaluate

$$\int_0^\pi \frac{\cos 4\theta}{1 + \cos^2 \theta} d\theta$$

Problem 2.

Evaluate

$$\int_0^\infty \frac{x - \sin x}{x^3} dx$$