Computer assignment 2, MATH 114
Due November 1, 2012.

1. With a help of Theorem 7.2 on page 498 estimate how many terms in the sum are needed to calculate

$$\int_{0.3}^{2.3} \sin 2x \, dx$$

   with accuracy of 10^{-4} using

   a) Midpoint rule,

   b) Trapezoid rule,

   c) Simpson's rule.

2. Implement using any computer language of your choice (e.g. MAPLE, MATLAB, Mathematica) the Midpoint, Trapezoid and Simpson's rules and calculate the integral in (1) using each method. Verify that your estimates in (1) are correct.