

Last Homework • MATH 322 • Real Valued Integrals via Complex Variables

- submit your write-up into your Section's box by noon, Friday 01 December.
 - please include your SFU login name with your name on the assignment.
 - a fair amount of material was covered this week, you are *most strongly* encouraged to work many optional problems in preparation for the final exam.
- A) **Residues** (10 pts, 3 pages) Problems #3a, 5 and 7 on pages 245-246. For #3a, explain first how one ascertains the order of the pole. Your written solution for #5 should explain part (b) of Problem 7 of Section 41 – include a labelled diagram.
- B) **Slightly Different** (10 pts, 3 pages) Problem #8 on pages 257-258. Note that Problems 1-5 parallel closely the example done in lecture. The assigned #8 does too, but involves an integrand that is not even symmetric on the real axis. Begin the problem by carrying out a careful parametrization of the complex contour indicated by Figure 92. The rest of the calculation should then strongly resemble the even-symmetric practice problems.
- C) **A Fourier Sine Integral** (10 pts, 3 pages) Problem #9 on page 266. Include a few words giving clear explanation of each key step.
- *) **Other Problems** (optional)
- Problems # 1,2,4 on pages 233-234.
 - Problems # 3, 4 on pages 238-239.
 - Problems # 2, 4 on page 245.
 - Problems # 1-5 on page 258.
 - Problems # 1-8 on page 265.