Homework 01

Part 1:

1. Section 8.8:

   Verify the convergence/divergence of the improper integrals $\int_0^1 \frac{1}{x^p} dx$ and $\int_1^\infty \frac{1}{x^p} dx$ for $p > 1$, $p = 1$ and $0 < p < 1$, respectively by direct evaluation (total 6 cases). Then memorize the results.

2. Section 8.8:

   Problems: 7, 13, 25, 31.