Honors Calculus 252-2

Winter 2002

Hermann Riecke

Problem Set 1

to be handed in Friday January 11, 2002, in class

1. Evaluate the following integrals over the region $\mathcal{R}$ in the first quadrant bounded by the hyperbola $xy = 1$ and the lines $x = 1$, $x = 2$, $y = 0$.

$$(i) \qquad \int\int_{\mathcal{R}} (x^2 + y^2)\ dx\ dy$$

$$(ii) \qquad \int\int_{\mathcal{R}} x e^{xy}\ dx\ dy$$

2. From Greenspan & Benney:
   Section 7.1: 9 ii, 9 iii, 16, 23, 24.