

## DOUBLE INTEGRALS

Evaluate the following double integrals.

1.  $\iint_R dA$  where  $R$  is the rectangle defined by  $0 \leq x \leq 2$  and  $0 \leq y \leq 1$ .
2.  $\iint_R dA$  where  $R$  is the region enclosed by the curves  $y = -x^2 + 1$  and  $y = x^2 - 1$ .
3.  $\iint_R (x^2 + y^2) dA$  where  $R$  is the square defined by  $-1 \leq x \leq 1$  and  $-1 \leq y \leq 1$ .
4.  $\iint_R (xy) dA$  where  $R$  is the region defined by  $0 \leq x \leq 1$  and  $0 \leq y \leq x^2$ .
5.  $\iint_R dA$  where  $R$  is the region defined by  $0 \leq x \leq \ln y$  and  $1 \leq y \leq 2$ .