

1. Calculate the following integrals numerically.

$$\int_{-1}^1 \int_{-1}^1 (1 - x^2)(1 - y^2) dx dy$$

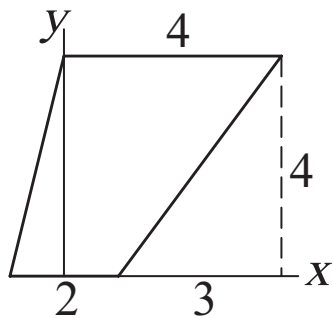
$$\int_{y=0}^2 \int_{x=0}^3 x^2 y^2 dx dy$$

$$\int_{-1}^1 \int_{-1}^1 e^{-(x^2+y^2)} dx dy$$

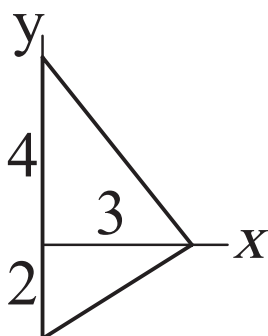
$$\int_{-1}^1 \int_{-1}^1 \cos \frac{\pi(x-y)}{2} dx dy$$

2. Compute the integral in the given quadrilateral. Compare with the analytical result.

$$\iint_A x dx dy$$

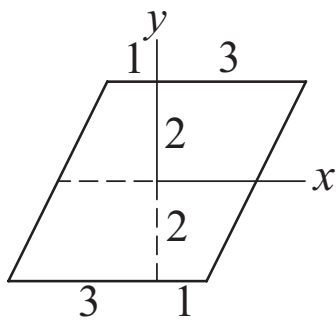


3. Compute the integral in the given triangle. Compare with the analytical result.



$$\iint_A x^2 dx dy$$

4. For the following region compute the following integrals:



$$\int \int_A xy(2 - x^2)(2 - xy) dx dy$$

$$\int \int_A xy \exp(-x^2) dx dy$$