

微積分II演習 No.9問題

2015-12-11

1. 次の積分を計算せよ。

(a) $\int_{-\pi/2}^{\pi/2} \int_{|y|-\pi/2}^{\pi/2-|y|} \sin(x-y) + \cos(x-y) dx dy.$

(b) $\iint_D x dx dy, D = \{(x, y) | x^2 + y^2 \leq 1, x \geq 0\}$

(c) $\iint_D x^2 + y^2 dx dy, D = \{(x, y) | x^2 + y^2 \leq 1, x \geq y\}$

(d) $\iint_D x dx dy, D = \{(x, y) | x^2 + y^2 \leq 1, x \leq y, x \geq 0\}$

(e) $\iiint_D x dx dy dz, D = \{(x, y, z) | x^2 + y^2 + z^2 \leq 1, x \geq 0\}$

(f) $\iiint_D x^2 dx dy dz, D = \{(x, y, z) | x^2 + y^2 + z^2 \leq 1\}$

(g) $\iiint_D dx dy dz, D = \{(x, y, z) | x^2 + y^2 + z^2 \leq 1, x \geq y, x \geq 0, z \geq y\}$