

Find $\int_{\gamma} f(X) \cdot dX$ in each case.

1. $f(x, y) = (2xe^y + y, e^y x^2 + x + y + \cos(y))$

γ is the unit quarter-circle in the first quadrant oriented clockwise.

2. $f(x, y) = (2 \cos(x^2 + y)x + y + 3, \cos(x^2 + y) + x + 2y + 2ye^{y^2})$

γ is the right half of the circle $(x - 1)^2 + (y + 2)^2 = 9$ from bottom to top