

Written HW5 – MATH 3503 Fall 2020

Due by 29 September for timely completion credit

In this homework, you will set up a double integral both as a $dydx$ -type and as a $dxdy$ -type iterated integral.

Consider the domain $D = \{(x, y): -1 \leq x \leq 1, 3 \leq y \leq 4\}$ and the function $f(x, y) = x^2y + \sin(x) \cos(y)$. In this problem you will investigate the integral

$$\iint_D f(x, y) dA.$$

1. Sketch a picture of the region D .
2. Set up the integral as a $dydx$ -type iterated integral.
3. Set up the integral as a $dxdy$ -type iterated integral.
4. Calculate both of the integrals you found in the previous two parts.