

Ans. Key

Math 2551 A1-3 Exercise 18

Section:

Name:

Student Number:

Let $f(x, y) = 1 + \sin(x + y)$ and $\Omega = \{(x, y) : x^2 + 4y^2 \leq 4\}$. Which of the following are equal to

$$\iint_{\Omega} f(x, y) dx dy ?$$

Mark "true" or "false" for each of the following answers.

True (A) $\int_{-2}^2 \int_{-0.5\sqrt{4-x^2}}^{0.5\sqrt{4-x^2}} f(x, y) dy dx;$

False (B) $\int_{-2}^2 \int_{-1}^1 f(x, y) dy dx;$

False (C) $\int_{-2}^2 \int_{-0.5\sqrt{4-4y^2}}^{0.5\sqrt{4-4y^2}} f(x, y) dx dy;$

True (D) $\int_{-1}^1 \int_{-\sqrt{4-4y^2}}^{\sqrt{4-4y^2}} f(x, y) dx dy.$

