

MATH S1202: Calculus IV

Quiz 1

May 24, 2018

1. Compute the integral of the constant function $f(x, y) = \pi$ over the rectangle $R = [-1, 1] \times [0, 1]$.
2. Compute the integral of the function $f(x, y) = \sqrt{1 - y^2}$ over the rectangle $R = [-1, 1] \times [0, 1]$.
3. Compute the integral of $f(x, y) = \sin(y^2)$ over the triangle bounded by the lines $y = x$, $y = \sqrt{\pi}$, and $x = 0$.
4. Find the volume of the solid below the surface $z = (x^2 + y^2)^2$ inside the cylinder $x^2 + y^2 = 1$.