

Math 3298 Worksheet 33: Surface integrals

Group members (2 to 4): _____

- (1) Find the average value of z^2 on the portion S of the plane $x + y + z = 6$ inside the cylinder $x^2 + y^2 = 4$. Compute the average as the ratio of the scalar surface integral $\int \int_S z^2 \, dS$ to the surface area $\int \int_S dS$.