

[12.2] - The shape of the solid

Each double integral describes the volume of a geometrical shape. Describe (and/or sketch) the shape. Use geometry to calculate the volume corresponding to the double integral.

1. $\int \int_{[0,1] \times [0,1]} (1 - y) \, dy \, dx$

2. $\int_{-3}^3 \int_{y=-2}^2 \sqrt{4 - y^2} \, dy \, dx$

3. $\int_{-1}^1 \int_{y=-2}^3 (1 - |x|) \, dy \, dx$