MATH 2130 – Tutorial Problems, Thu Mar 29

Applications of Double Integrals

Example. Use polar coordinates to find the second moment of area of a disk of radius R about a line tangent to the disk.

Example. Find the area enclosed by the curve $r = 1 + \cos\theta$. Then find its centroid.

Triple Integrals

Example. Set up a triple iterated integral for the integral of a continuous function $f(x, y, z)$ over the volume bounded by the surfaces $2z = x^2 + y^2$ and $2x = y^2 + z^2$.