

Written HW9 – MATH 3503 Fall 2022

1. Use cylindrical coordinates: evaluate $\iiint_E x dV$ where E is enclosed by the planes $z = 0$ and $z = x + y + 5$ and by the cylinders $x^2 + y^2 = 4$ and $x^2 + y^2 = 9$.

2. Use spherical coordinates: find the volume of the solid that lies above the cone $\phi = \frac{\pi}{3}$ and below the sphere $\rho = 4 \cos(\phi)$. (*note: plot that sphere in CalcPlot3d to understand it!*)