Calc 3 WH N

0 = 2 = 16 - x2-y2 $0 \le z \le 1b-r^2 \qquad V = \begin{cases} 2\pi & 4 & 1b-r^2 \\ 0 \le r \le 4 \end{cases}$ $0 \le r \le 4 \qquad V = \begin{cases} 50 & 50 \\ 0 & 50 \end{cases}$ $\leq 2\pi$ $V = \int_{0}^{2\pi} \int_{0}^{4} \left(b - r^{2} \right) r \, dr \, d\omega$ V = 50 50 16r-13 de do $= \int_{0}^{2\pi} \left[8r^{2} - \frac{r^{4}}{4} \right]_{0}^{4} d\theta = \int_{0}^{2\pi} 128 - 64$ $= [640]_0^{2\pi} = [128\pi = V]$ 0 = x2+y2 = 4 X = 1 coso 0 = 12 = 4 Y = 1 sho 0 = Z = 10 - rcos 0 - sho V= 52052 S10-rcoso-sho rdzdrdo = 520 52 (10-rcos 0-rs.20) r dr do = \$27 (2 (10r-r2cost-12sho) de do

2. Cont, $V = \int_{0}^{2\pi} \left[\int_{0}^{2\pi}$ = 5 20 - 8 coo - 8 sho do = [2019 - 8 sind + 8 cos 0] = 20(2n) - 8 5.2(2n) + 8 cos (2n) -[20(0)-8 sin(0)+8 cos(0)]= 40 x + 8 - 8 = [10 x] 3) $0 \le r \le 3$ x = psin f cos o $0 \le \theta \le \pi/2$ y = psin f sin o $0 \le \theta \le \pi/2$ z = pcos esals sals sur coso, peu é dégées = 5 7/2 5 7/2 53 p3 sh e2 cost of de do = 5 1/2 5 1/2 21 sin y 2 coso dydo

3) 81 5 1/2 5 1/2 1 (1+1052e) coso dy do = 81 5 th [4-1 sin 20)-100] th 2 81 j 1/2 1 coso do = 272 [sho] =