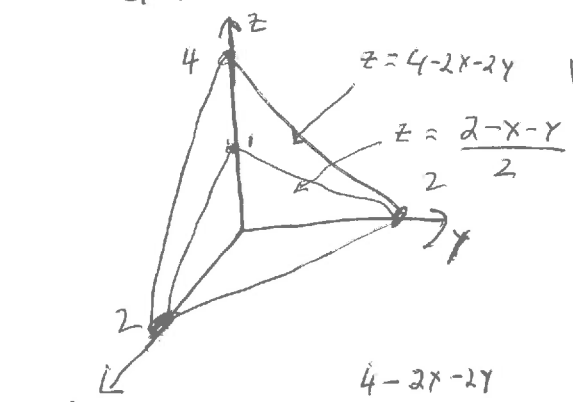


Quiz 8 11:40 class



Vol =  $\iint_S \int_{\text{bottom}}^{\text{top}} dz dA$   
 in  
 fatter  
 class  
 section

$$= \iint \int_{\frac{2-x-y}{2}}^{4-2x-2y} dz dA = \int_0^2 \int_0^{2-x} \int_{\frac{2-x-y}{2}}^{4-2x-2y} dz dy dx$$

$$= \int_0^2 \int_0^{2-x} \left[ 4-2x-2y - \left(1-\frac{x}{2}-\frac{y}{2}\right) \right] dy dx = \int_0^2 \int_0^{2-x} \left( 3 - \frac{3}{2}x - \frac{3}{2}y \right) dy dx$$

$$= \int_0^2 \left[ 3y - \frac{3}{2}xy - \frac{3}{4}y^2 \right]_0^{2-x} dx$$

$$= \int_0^2 \left[ 3(2-x) - \frac{3}{2}x(2-x) - \frac{3}{4}(2-x)^2 \right] dx$$

$$= \int_0^2 \left[ 3(2-x) - 3x + \frac{3}{2}x^2 - \frac{3}{4}(2-x)^2 \right] dx$$

$$= \left[ -\frac{3(2-x)^2}{2} - \frac{3x^2}{2} + \frac{x^3}{2} + \frac{1}{4}(2-x)^3 \right]_0^2$$

$$= -6 + 4 - (-6 + 2) = \boxed{2}$$