

Evaluate.

1.  $\int \int \int_{\mathcal{B}} dV$  where  $\mathcal{B}$  is the region in the first octant bounded by the planes  $y = x^2$ ,  $z = 0$  and  $y + z = 1$ .

2.  $\int \int_{\mathcal{B}} \int x^2 e^y dV$  where  $\mathcal{B}$  is the region in the first octant bounded by  $y + z = 2$  and  $x = 4 - y^2$ .