

Evaluate.

1. $\int \int \int_{\mathcal{B}} dV$ where \mathcal{B} is the region in the first octant bounded by the planes
 $x + 2y + 3z = 6$ and $x + 2y + z = 6$.

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