

Evaluate.

1. $\int \int \int_{\mathcal{B}} z dV$ where \mathcal{B} is the region in the first octant bounded by the paraboloids $z = 32 - x^2 - y^2$ and $z = x^2 + y^2$.

$$2. \int_{-2}^2 \int_{-\sqrt{4-x^2}}^{\sqrt{4-x^2}} \int_{\sqrt{x^2+y^2}}^2 z \, dz \, dy \, dx$$