

MATH 251: Practice 22

July 8, 2015

Name: _____

Let $\mathcal{S} = G(u, v) = (u^2, v, u + v)$. $1 \leq u \leq 2$, $1 \leq v \leq 2$.

1. Find the normal vector to \mathcal{S} as a function of u and v .

2. Compute the integrals

$$\iint_{\mathcal{S}} z - y \, dS \quad \iint_{\mathcal{S}} \langle x, y, 1 \rangle \cdot d\vec{S}$$