

MATH 275

November 27, 2007

Names _____

1. Evaluate the surface integral

$$\iint_S y^2 z^2 \, dS$$

where S is the part of the cone $z = \sqrt{x^2 + y^2}$ between the planes $z = 1$ and $z = 2$.

2. If $\mathbf{F} = 3y^2\mathbf{i} - \mathbf{j} + xz\mathbf{k}$ evaluate $\iint_S \mathbf{F} \cdot d\mathbf{S}$ where s is the surface $z = 1$, $0 \leq x \leq 1$, $0 \leq y \leq x$.