MATH 261 Quiz 14 Name:
Student number:

Show all work. 10 points.

1. Use the Divergence Theorem to evaluate $\iint_S \mathbf{F} \cdot d\mathbf{S}$ where S is the surface of the solid bounded by the cylinder $x^2 + y^2 = 1$ and the planes $z = 1$ and $z = 2$ with $\mathbf{F}(x, y, z) = \langle 3xy^2, xe^z z, z^3 \rangle$.