Math 273 | Quiz 11 | Name: _____

21 Apr 2016 | Show appropriate work. | Point Values in $\boxed{\text{boxes}}$.

1. $\boxed{5}$ Evaluate

$$\iint_S \langle x, y, z^2 \rangle \cdot d\mathbf{S}$$

where S is the cone parameterized by

$$G(u, v) = \langle 2u \cos v, 2u \sin v, u \rangle$$

for $0 \leq u \leq 2, 0 \leq v \leq 2\pi$ with outward/downward pointing normal vectors.

2. $\boxed{5}$ Evaluate

$$\iint_S \langle xz, yz, x^2 + y^2 \rangle \cdot d\mathbf{S}$$

where S is the surface consisting of the cylinder $x^2 + y^2 = 4$ for $0 \leq z \leq 3$ with outward pointing normal and the disk $x^2 + y^2 \leq 4$ in the xy-plane with downward normal. [S is a drinking glass, with normal vectors pointing outward.]