Quiz 9   Calculus 3   11/22/2004

Each problem is worth 5 points. Clear and complete justification is required for full credit.

1. Compute $\iint\limits_{S} \langle a,b,c \rangle \cdot d\,S$ for S the surface of a sphere with radius 1 centered at the origin **without**

using the divergence theorem. You may attach an additional sheet if you like.

2. Compute $\iint\limits_{S} \langle x^2, 2y^2, 3z^2 \rangle \cdot d\,S$ where S is the surface of the box with faces $x = 1$, $x = 2$, $y = 0$,

$y = 1$, $z = 0$, $z = 1$.