**Quiz 4 Calculus 3 11/14/03**

Each problem is worth 5 points. For full credit indicate clearly how you reached your answer.

1. Compute $\oint_C \mathbf{F} \cdot d\mathbf{r}$ for $\mathbf{F}(x,y) = \langle xy, 2x^2 \rangle$, where C is the path beginning with a line segment from (0,0) to (4,0), followed by an arc of a circle (centered at the origin) from (4,0) to (0,4), and finally the line segment from (0,4) to (0,0).

2. Find div $\langle 3xyz, y^2, x^3y^4 \rangle$.

3. Find curl $\langle 2x, -z, y \rangle$.