Quiz 4b Calculus 3 11/10/2008

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

1. Evaluate $\int_C \mathbf{G} \cdot d\mathbf{r}$, where $\mathbf{G}(x, y) = \langle xy^2, x^2y \rangle$ and C is a line segment from (2,1) to (5,–4).

2. Evaluate $\int_C \mathbf{F} \cdot d\mathbf{r}$, where $\mathbf{F}(x, y) = \langle xy^3, 2y^4 \rangle$ and C is the first-quadrant portion of a circle with radius 1, centered at the origin and traversed counterclockwise.