

**Quiz 4a      Calculus 3      11/10/2008**

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

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

2. 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  $(5,-4)$ .