

**Quiz 8      Calculus 3      11/11/2009**

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

1. Let  $\mathbf{F}(x, y, z) = \left\langle \frac{-z}{\sqrt{x^2 + y^2 + z^2}}, 2, \frac{x}{\sqrt{x^2 + y^2 + z^2}} \right\rangle$ . Compute  $\text{div } \mathbf{F}$ .

2. Let  $\mathbf{G}(x, y, z) = xyz \mathbf{i} + z \mathbf{j} - 5y^2 \mathbf{k}$ . Compute  $\text{curl } \mathbf{G}$ .

