## Quiz $3 \quad$ Calculus $3 \quad 9 / 9 / 2009$

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

1. Show that $\lim _{(x, y) \rightarrow(0,0)} \frac{x(x-y)}{x^{2}+y^{2}}$ does not exist.
