

Due on March 13, 2006, Monday, Class time. No late submissions!

MATH 114 Homework 4

1: Find $\lim_{(x,y) \rightarrow (0,0)} \frac{xy^5}{x^2 + y^4}$, if it exists.

2: Find $\lim_{(x,y) \rightarrow (0,0)} \frac{xy}{x^2 + y^2}$, if it exists.

3: Find $\lim_{(x,y) \rightarrow (0,0)} \frac{xy^2}{x^2 + 3y^4}$, if it exists.

4: Find $\lim_{(x,y) \rightarrow (0,0)} \frac{x^5 - y^5}{(x^2 + y^2)^2}$, if it exists.

5: Find $\lim_{(x,y) \rightarrow (0,0)} \frac{x^2y^8}{x^4 + y^6}$, if it exists.