

## Limits and Continuity

Find the limit, if it exists, or show that the limit does not exist.

$$\lim_{(x,y) \rightarrow (0,0)} \frac{xy^2}{x^2 + y^4}$$

$$\lim_{(x,y) \rightarrow (0,0)} \frac{xy^2 e^x}{x^2 + y^2}$$

$$\lim_{(x,y) \rightarrow (0,0)} \frac{x^4 + y^4}{\sqrt{x^4 + y^4 + 1} - 1}$$

$$\lim_{(x,y) \rightarrow (0,0)} \frac{xy \sin y}{x^2 + y^4}$$

$$\lim_{(x,y,z) \rightarrow (0,0,0)} \frac{xy^2 + y^2 z^2 + xz^2}{x^2 + y^4 + z^4}$$

Course Homework due Mar 12, Wed.

Mar 3, Mon. : **14.7** 1, 3, 5, 7, 9, 11, 29, 31, 39

Mar 5, Wed. : **14.8** 3, 5, 7, 9, 11, 15, 19, 25, 41

Mar 7, Fri. : **15.1** 11, 31. **15.2** 3, 5, 7, 9, 15, 17, 27, 31