

MATH 251 - QUIZ 4

NAME:

I.D.:

**Instruction:** Circle your answers and show all your work CLEARLY. Solutions with answer only and without supporting procedures will have little credit.

1. Use limit laws to compute the following limits, or indicate that the limit does not exist.

(1A)  $\lim_{(x,y) \rightarrow (-1,-1)} \frac{5 - x^2}{3 + x + y}$ .

(1B)  $\lim_{(x,y) \rightarrow (0,0)} \frac{\sin(xy)}{xy}$ .

(1C)  $\lim_{(x,y) \rightarrow (0,0)} \frac{2xy}{x^2 + y^2}$ .