"QUIZ" for Lecture 6

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E-MAIL SCANNED .pdf OF COMPLETED QUIZ to DrZcalc3@gmail.com (Attachment: q6FirstLast.pdf) ASAP BUT NO LATER THAN Sept. 24, 8:00pm

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

$$\lim_{(x,y)\to(0,0)} \frac{2x}{2x+3y}$$

$\lim_{(x,y)\to(0,0)} \frac{2(0)}{2(0)+3(0)}$

$\lim_{(x,y)\to(0,0)} \frac{0}{0}$ → indeterminate

l'hopitals

$f'(x,y) = \frac{2}{2+3} = \boxed{\frac{2}{5}}$

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

$$\lim_{(x,y)\to(0,0)} \frac{x^5}{x^2+y^2}$$

$\lim_{(x,y)\to(0,0)} \frac{0^5}{0^2+0^2}$

$\lim_{(x,y)\to(0,0)} \frac{0}{0}$ → indeterminate

l'hopitals

$f'(x,y) = \frac{5x^4}{2x+2y}$

$\lim_{(x,y)\to(0,0)} \frac{5(0)^4}{2(0)+2(0)}$

$\lim_{(x,y)\to(0,0)} \frac{0}{0}$ indeterminate

limit should be 0