

"QUIZ" for Lecture 6

NAME: (print!) Fayed Raza Section: 24

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.

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

$$\lim_{(x,y) \rightarrow (0,0)} = \frac{0}{0+0} = \frac{0}{0} \text{ undef}$$

$$\lim_{(x,y) \rightarrow (0,0)} = \frac{2x(2x-3y)}{4x^2-9y^2} = \frac{0}{0} \text{ DNE}$$

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

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

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

$$= \frac{x^3(x^2-y^2)}{x^4-y^4} = \frac{0}{0} = \text{undef}$$