"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.

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

$$\lim_{(x,y)\to(0,y)} = \frac{0}{3y} \qquad \neq$$

$$x=y \qquad \lim_{(x,y)\to(y,y)} = \frac{2y}{2y+3y} = \frac{2y}{5y} = \frac{2}{5}$$

DNE

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

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

$$= \frac{0}{y^2} = 0$$

$$sin^2\theta + cos^3\theta = 1 \quad ?$$

I think maybe this
has something to do
with this identity but
I am not sure...

$$= \frac{y^5}{y^2+y^2}$$

$$2y^2$$

$$\neq$$

$$\frac{y^5}{2y^2} = \frac{1}{2}\frac{y^5}{y^2} = \frac{y^3}{2}$$

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