

Quiz 10

$$(a) \lim_{(x,y) \rightarrow (2,-1)} \frac{x+3y}{2x+y} = \frac{2-3}{4-1} = \frac{-1}{3}$$

(b) $f(x,y)$ continuous at .

$$D = \{(x,y) : y \neq -2x\}$$

$$(c) \lim_{(x,y) \rightarrow (a,0)} \frac{x+3y}{2x+y} = \lim_{\substack{x \rightarrow a \\ \text{x-axis}}} \frac{x}{2x} = \frac{1}{2}$$

$$(d) \lim_{y \rightarrow 0} \frac{x+3y}{2x+y} \text{ along y-axis} = \lim_{y \rightarrow 0} \frac{3y}{y} = 3$$

(e) \lim DNE b/c (c) \neq (d)