

Questions

1. (5 marks) Determine whether the following limits exist. If the limit exists, find the value and explain. If not, write DNE and explain why the limit does not exist. You should show all your steps to earn full mark.

(a) $\lim_{(x,y) \rightarrow (0,0)} \frac{\ln(2)x^4}{\sin(4)e^5y^2} = \text{-----}$

(b) $\lim_{(x,y) \rightarrow (0,0)} \frac{x^2ye^x}{x^2+y^2} = \text{-----}$