

Partial Differentiation
Limits

Question

Evaluate the given limit. If the limit does not exist, explain why.

$$\lim_{(x,y) \rightarrow (0,0)} \frac{\sin(x-y)}{\cos(x+y)}$$

Answer

$$\lim_{(x,y) \rightarrow (0,0)} \frac{\sin(x-y)}{\cos(x+y)} = \frac{\sin 0}{\cos 0} = 0$$