

# Aula 14 - exercício 27 - gabarito

quarta-feira, 9 de março de 2022 21:10

Prove o seguinte a seguir:

$$\forall x (p(x) \rightarrow \neg q(x)) \vdash \neg(\exists x (p(x) \wedge q(x))).$$

$$\begin{array}{c}
 \frac{\forall x (p(x) \rightarrow \neg q(x)) \quad (\forall e)}{p(x_0) \rightarrow \neg q(x_0)} \quad \frac{[\exists x (p(x) \wedge q(x))]^u \quad (\exists e)}{p(x_0)} \quad \frac{[\exists x (p(x) \wedge q(x))]^u \quad (\exists e)}{q(x_0)} \\
 \frac{p(x_0) \rightarrow \neg q(x_0) \quad p(x_0)}{\neg q(x_0)} \quad \frac{p(x_0) \quad q(x_0)}{\perp} \\
 \frac{[\exists x (p(x) \wedge q(x))]^u \quad \neg q(x_0)}{\perp} \quad \frac{[\exists x (p(x) \wedge q(x))]^u \quad q(x_0)}{\perp} \\
 \frac{[\exists x (p(x) \wedge q(x))]^u \quad \perp}{\neg(\exists x (p(x) \wedge q(x)))} \quad (\neg i) \quad \frac{\perp}{(\exists e)u}
 \end{array}$$