

Prove o seguinte $\exists x(p(x) \vee q(x)) \vdash (\exists x p(x)) \vee (\exists x q(x))$.

Solução:

$$\begin{array}{c}
 \frac{\frac{\frac{[p(x)]^v}{\exists x p(x)} (\exists i)}{[p(x) \vee q(x)]^u} (\exists i)}{\exists x(p(x) \vee q(x))} (\exists i) \vee, w \\
 \frac{\frac{\frac{[q(x)]^w}{\exists x q(x)} (\exists i)}{[p(x) \vee q(x)]^u} (\exists i)}{\exists x(p(x) \vee q(x))} (\exists i) \vee, w \\
 \frac{\exists x(p(x) \vee q(x))}{(\exists x p(x)) \vee (\exists x q(x))} (\exists e) u \\
 \frac{\exists x(p(x) \vee q(x))}{(\exists x p(x)) \vee (\exists x q(x))}
 \end{array}$$