$$\frac{\langle p_1, q_1 \rangle \preceq_{\mathbf{P} \times \mathbf{Q}} \langle p_2, q_2 \rangle}{(p_1 \preceq_{\mathbf{P}} p_2) \wedge (q_1 \preceq_{\mathbf{Q}} q_2)}$$