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**Lemma 1** [*p:term*]  $\mathbf{T} p$ .

**Proof.**  $\mathbf{T} p$  by completion.  $\square$

**Lemma 2** [*p:succes*]  $\mathbf{S} p$ .

**Proof.**  $\mathbf{S} p$  by completion.  $\square$

**Lemma 3** [*q:succes*]  $\mathbf{S} q$ .

**Proof.**  $\mathbf{S} q$  by sld.  $\square$

**Lemma 4** [*p:faux\_implique\_tout*]  $\mathbf{F} p \rightarrow a = b$ .

**Proof.**

Assumption<sub>0</sub>:  $\mathbf{F} p$ .  $\mathbf{S} p$  by completion.  $\perp$ .

Thus<sub>0</sub>:  $\mathbf{F} p \rightarrow a = b$ .  $\square$

**Lemma 5** [*r:succes*]  $\mathbf{S} r$ .

**Proof.**  $\mathbf{S} p$  by sld.  $\square$

**Lemma 6** [*r:term*]  $\mathbf{T} r$ .

**Proof.**  $\mathbf{T} p$  by completion.  $\mathbf{T} q$  by completion.  $\mathbf{T} p \wedge \mathbf{T} q$ .  $\square$

**Lemma 7** [*s:succes*]  $\mathbf{S} s$ .

**Proof.**  $\mathbf{S} p$  by sld.  $\mathbf{S} q$  by completion.  $\square$

**Lemma 8** [*s:term*]  $\mathbf{T} s$ .

**Proof.**  $\mathbf{T} p$  by completion.  $\mathbf{T} q$  by completion.  $\mathbf{T} s$  by completion.  $\square$

**Lemma 9** [*t:succes*]  $\mathbf{S} t$ .

**Proof.**  $\mathbf{S} t$  by sld.  $\square$

**Lemma 10** [*u:total*]  $\mathbf{T} u \rightarrow \mathbf{S} u \vee \mathbf{F} u$ .

**Proof.**

Assumption<sub>0</sub>:  $\mathbf{T} u$ .

Thus<sub>0</sub>:  $\mathbf{T} u \rightarrow \mathbf{S} u \vee \mathbf{F} u$ .  $\square$

**Lemma 11** [*v:succes*]  $\mathbf{S} v$ .

**Proof.**  $\mathbf{S} p$  by sld.  $\mathbf{S} q$  by completion.  $\mathbf{S} s$  by sld.  $\mathbf{S} v$  by sld.  $\square$

**Lemma 12** [*x:echec*]  $\mathbf{F} x$ .

**Proof.**  $\mathbf{F} x$  by completion.  $\square$

**Lemma 13** [*w:term*]  $\mathbf{T} w$ .

**Proof.**  $\mathbf{T} x$  by completion.  $\mathbf{F} x$  by completion.  $\mathbf{T}(x \wedge u)$ .  $\square$