```
RussellsParadox_Frege2  THM

⊢  ¬(∃Set:Type, ∈:(Set→Set→Prop).
|    ∀P:(Set→Prop). ∃p:Set. ∀x:Set. (x ∈ p) ⟺ P(x))  by Analyze
|
1. Set : Type
2. ∈ : Set→Set→Prop
3. ∀P:(Set→Prop). ∃p:Set. ∀x:Set. (x ∈ p) ⟺ P(x)
⊢  False  by Inst: Hyp:3 Using:[P(x):= ¬(x ∈ x)] THEN Reduce Hyp:3
|
4. ∃p:Set. ∀x:Set. (x ∈ p) ⟺ ¬(x ∈ x)
⊢  False  by Analyze4
|
4. p : Set
5. ∀x:Set. (x ∈ p) ⟺ ¬(x ∈ x)
⊢  False  by Witness5: p
|
5. (p ∈ p) ⟺ ¬(p ∈ p)
⊢  False  by Thm*  ¬(P ⟺ ¬P)    {no_prop_iff_its_neg}  Asserted
|
6. ∀P:Prop. ¬(P ⟺ ¬P)
⊢  False  by Witness6: p ∈ p {← contradicting Hyp:5 }
END
```