```
equiv_rel_fun  THM

⊢  ∀E:(T→T→𝔹), s,t:T.
|  (EquivRel x,y:T. x E y) ⇒ (s E t) ⇒ E(s) = E(t)
| by UnivCD THEN Ext
|
1. T : Type
2. E : T→T→𝔹
3. s : T
4. t : T
5. EquivRel x,y:T. x E y
6. s E t
7. x : T
⊢  E(s,x) = E(t,x)
| by BackThru Thm* ∀a,b:𝔹. (a ⟺ b) ⇒ a = b    {iff_imp_equal_bool}
|
⊢  E(s,x) ⟺ E(t,x)  by Analyze 5 THEN Analyze 6
|
5. Refl(T;x,y.x E y)
6. Sym x,y:T. x E y
7. Trans x,y:T. x E y
8. s E t
9. x : T
⊢   by Unfold ‘trans‘ 7 THEN Unfold ‘sym‘ 6
|
6. ∀a,b:T. (a E b) ⇒ (b E a)
7. ∀a,b,c:T. (a E b) ⇒ (b E c) ⇒ (a E c)
8. s E t
9. x : T
⊢   by Analyze 0 THEN Analyze 0
|
|\
| 10. E(s,x)
| ⊢  E(t,x)  by BackThru 6
| |
| ⊢  x E t  by FwdThru 6 [10]
| |
| 11. x E s
| ⊢   by FwdThru 7 [11;8]
|
.\
. 10. E(t,x)
. ⊢  E(s,x)  by FwdThru 7 [8;10]
END
```