```
⊢ ∀[T:Type]. ∀[A:T → ℙ].  {¬(∀x:T. {A x}) ⟺ ∃x:T. (¬(A x))}
|
BY (D 0 THENA Auto)
|\
| 1. T: Type
| ⊢ ∀[A:T → ℙ]. {¬(∀x:T. {A x}) ⟺ ∃x:T. (¬(A x))}
| |
1 BY (D 0 THENA Auto)
| |\
| | 2. A: T → ℙ
| | ⊢ {¬(∀x:T. {A x}) ⟺ ∃x:T. (¬(A x))}
| | |
1 2 BY RepeatFor 4 ((D 0 THENA Auto))
| | |\
| | | 3. ¬(∀x:T. {A x})
| | | ⊢ {∃x:T. (¬(A x))}
| | | |
1 2 3 BY (ClassicalContradiction THENA Auto)
| | | |
| | | 4. ¬(∃x:T. (¬(A x)))
| | | ⊢ {∃x:T. (¬(A x))}
| | | |
1 2 3 BY D 3
| | | |
| | | 3. ¬(∃x:T. (¬(A x)))
| | | ⊢ ∀x:T. {A x}
| | | |
1 2 3 BY (D 0 THENA Auto)
| | | |
| | | 4. x: T
| | | ⊢ {A x}
| | | |
1 2 3 BY (ClassicalContradiction· THENA Auto)
| | | |
| | | 5. ¬(A x)
| | | ⊢ {A x}
| | | |
1 2 3 BY D 3
| | | |
| | | 3. x: T
| | | 4. ¬(A x)
| | | ⊢ ∃x:T. (¬(A x))
| | | |
1 2 3 BY (InstConcl [⌜x⌝]· THENA Auto)
| | | |
| | | ⊢ ¬(A x)
| | | |
1 2 3 BY Hypothesis
| |  \
| |   3. ∃x:T. (¬(A x))
| |   ⊢ {¬(∀x:T. {A x})}
| |   |
1 2   BY (ElimClassical THENA Auto)
| |   |
| |   ⊢ ¬(∀x:T. {A x})
| |   |
```

```
1 2   BY (D 0 THENA Auto)
| |   |
| |   4. ∀x:T. {A x}
| |   ⊢ False
| |   |
1 2   BY D 3
| |   |
| |   3. x: T
| |   4. ¬(A x)
| |   5. ∀x:T. {A x}
| |   ⊢ False
| |   |
1 2   BY (InstHyp [⌜x⌝] 5· THENA Auto)
| |   |
| |   6. {A x}
| |   ⊢ False
| |   |
1 2   BY D 6
| |   |
| |   6. x@0: Unit
| |   7. A x
| |   ⊢ False
| |   |
1 2   BY D 4
| |   |
| |   4. ∀x:T. {A x}
| |   5. x@0: Unit
| |   6. A x
| |   ⊢ A x
| |   |
1 2   BY Hypothesis
|  \
|   2. A: T → ℙ
|   3. {x:Unit| ¬(∀x:T. {A x}) ⟺ ∃x:T. (¬(A x))}
|   ⊢ Ax ∈ {x:Unit| ¬(∀x:T. {A x}) ⟺ ∃x:T. (¬(A x))}
|   |
1   BY Auto
 \
  1. T: Type
  2. A: T → ℙ
  3. {x:Unit| ¬(∀x:T. {A x}) ⟺ ∃x:T. (¬(A x))}
  ⊢ Ax ∈ {x:Unit| ¬(∀x:T. {A x}) ⟺ ∃x:T. (¬(A x))}
  |
  BY Auto
```