```
coprime_bezout_id1  THM

⊢  ∀a,b:ℤ. CoPrime(a,b) ⇒ (∃x,y:ℤ. a·x+b·y = 1)
| by RepD
|    THEN
|    (FwdThru
|     Thm* ∀a,b:ℤ. CoPrime(a,b) ⇒ (∃x,y:ℤ. (a·x+b·y) ∼ 1)
|     {coprime_bezout_id0}
|     [-1])
|    THEN
|    ExRepD
|
1. a : ℤ
2. b : ℤ
3. CoPrime(a,b)
4. x : ℤ
5. y : ℤ
6. (a·x+b·y) ∼ 1
⊢  ∃x,y:ℤ. a·x+b·y = 1
| by (RW0 Thm* ∀a,b:ℤ. (a ∼ b) ⟺ a = b ∨ a = -b    {assoced_elim} 6)
|    THEN
|    (Analyze 6)
|
|\
| 6. a·x+b·y = 1
| ⊢  ∃x,y:ℤ. a·x+b·y = 1  by InstConcl [x;y]
|
.\
. 6. a·x+b·y = -1
. ⊢  ∃x,y:ℤ. a·x+b·y = 1  by (InstConcl [-x;-y]) THEN (ArithSimp 0)
. |
. ⊢  -a·x+-b·y = 1
.   by FwdThru
.      Thm* ∀i,j:ℤ. i = j ⇒ -i = -j    {minus_functionality_wrt_eq}
.      [6]
END
```