```
bezout_ident  THM

⊢  ∀a,b:ℤ. ∃u,v:ℤ. GCD(a;b;u·a+v·b)  by UnivCD THEN (Decide (0≤b))
|
|\
| 1. a : ℤ
| 2. b : ℤ
| 3. 0≤b
| ⊢  ∃u,v:ℤ. GCD(a;b;u·a+v·b)
|   by BackThru
|      Thm* ∀b:ℕ, a:ℤ. ∃u,v:ℤ. GCD(a;b;u·a+v·b)    {bezout_ident_n}
|
.\
. 1. a : ℤ
. 2. b : ℤ
. 3. ¬0≤b
. ⊢  ∃u,v:ℤ. GCD(a;b;u·a+v·b)
. | by (Inst
. |     Thm* ∀b:ℕ, a:ℤ. ∃u,v:ℤ. GCD(a;b;u·a+v·b)    {bezout_ident_n}
. |     [-b;a])
. |    THEN
. |    ExRepD
. |
. 4. u : ℤ
. 5. v : ℤ
. 6. GCD(a;-b;u·a+v·(-b))
. ⊢  ∃u,v:ℤ. GCD(a;b;u·a+v·b)
.   by (InstConcl [u;-v])
.      THEN
.      (FwdThru
.       Thm* ∀a,b,y:ℤ. GCD(a;b;y) ⇒ GCD(a;-b;y)    {gcd_p_neg_arg}
.       [6])
.      THEN
.      (OnMCls [-1;0] ArithSimp)
END
```