```
neg_mul_arg_bounds  THM

⊢  ∀a,b:ℤ. a·b<0 ⟺ a<0 & b>0 ∨ a>0 & b<0
| by RepD
|    THEN
|    (Inst
|     Thm* ∀a,b:ℤ. a·b>0 ⟺ a>0 & b>0 ∨ a<0 & b<0
|     {pos_mul_arg_bounds}
|     [-a;b])
|
1. a : ℤ
2. b : ℤ
3. (-a)·b>0 ⟺ -a>0 & b>0 ∨ -a<0 & b<0
⊢  a·b<0 ⟺ a<0 & b>0 ∨ a>0 & b<0
| by ReplaceWithEqv (TryC (HigherC IntSimpC))
|    (-a·b>-0 ⟺ -a>-0 & b>0 ∨ -a<-0 & b<0)
|    3
|
3. -a·b>-0 ⟺ -a>-0 & b>0 ∨ -a<-0 & b<0
⊢  a·b<0 ⟺ a<0 & b>0 ∨ a>0 & b<0
| by RWH (RevLemmaC Thm* ∀i,j:ℤ. i>j ⟺ -i<-j    {minus_mono_wrt_lt})
|    3
|
3. 0>a·b ⟺ 0>a & b>0 ∨ a>0 & b<0
⊢  a·b<0 ⟺ a<0 & b>0 ∨ a>0 & b<0  by Trivial
END
```