```
IntCycle (first, last, N): trait
  % A finite subrange of the integers that includes 0,
  % and wraps at succ(last)
  includes
    ArithOps (N),
    DecimalLiterals,
    MinMax (N),
    TotalOrder (N)
  introduces
    first, last: → N
    pred, -__, abs: N → N
    __-__: N, N → N
  asserts
    N generated by 0, succ
    ∀ x, y: N
      succ(last) == first;
      pred(succ(x)) == x;
      succ(pred(x)) == x;
      -0 == 0;
      -succ(x) == pred(-x);
      abs(x) == if x < 0 then -x else x;
      x - y == x + (-y);
      x ≠ last ⇒ x < succ(x)
  implies
    Distributive (+, *, N),
    RingWithUnit (N for T)
    N generated by 0, pred
    ∀ x: N
      pred(first) == last;
      first ≤ x;
      x ≤ last;
      -(-x) == x
    converts
      pred, -__:N→N, abs, __-__:N,N→N,
      1:→N, +, *, max, min, ≤, ≥, <, >
```