```
ArithOps (N): trait
  % Defines operators div and mod relative to + and *
  % for positive denominators
  assumes TotalOrder (N)
  includes Multiplication (N)
  introduces
    div, mod: N, N → N
  asserts ∀ x, y: N
    y > 0
      ⇒ (0 ≤ mod(x, y)
           ∧ mod(x, y) < y
           ∧ (mod(x, y) + (div(x, y) * y)) = x)
```