↳ $0 + x + s(y) = 0 + s(y) + x$ .... (10)

Apply symmetry on Π, and transitivity w/ Axiom (1).

↳ $0 + x = x$ ... (11).

Apply (11) on (10).

↳ $x + s(y) = 0 + s(y) + x$ ... (12)

Apply substitution on (12)

$y \to 0$, $x \to y$

↳ $y + s(0) = 0 + s(0) + y$.

... ? (left for now).

Knuth-Bendix

- Termination and confluence,
- Creating a new re-write rule so that you want confluence,
- when making the rules to get confluence, we want to simplify, otherwise we get issues of termination.
- when we make this new rule, we must make it consistent w/ the rules we currently have (to avoid the same issues.

ex.) (1) $e \cdot x \to x$.

(4) $I(x) \cdot (x \cdot z) \to z$.

→ replace ($x \to e$, and $z \to x$), ?.

(2) $I(x) \cdot x \to e$.

(4) $I(x) \cdot (x \cdot z) \to z$.

replace $x \to I(a)$,

$z \to a$.

$I(I(a)) \cdot (I(a) \cdot a) \to a$.

(2) ↙ ↘ (4)

$I(I(a)) \cdot (e) \to a$ $\quad$ a.