$$\text{Set } R \begin{cases} 1 & (X+Y)+Z \Rightarrow X+(Y+Z) \\ 2 & -X+X \Rightarrow 0 \\ 3 & 0+X \Rightarrow X \end{cases}$$

$$4 \quad -X'+(X'+Z) \Rightarrow Z$$

4. From rules 1 and 2:
$$\overset{s}{\overbrace{(X+Y)}}+Z \Rightarrow X+(Y+Z)$$
$$-X'+X' \Rightarrow 0$$

mgu $\theta = \{-X'/X, \ X'/Y\}$

$$CP = \langle \ -X'+(X'+Z), \ \underset{S_2}{\underline{0+Z}} \ \rangle$$
$$ \underset{S_1}{\underline{}}$$

→ Taking this CP, KB reduces its second component using rule 3

$S_1' = $ Normalize $S_1 = -X'+(X'+Z)$

$S_2' = $ Normalize $S_2 = Z$ ←

→ We can add this rule, which maintains termination, to the set

5. KB algo: Consider $\boxed{(-X'+(X'+Z) \Rightarrow Z)} \cup R$

This set is terminating.

6. From rules 2 and 4:
$$-X+X \Rightarrow 0$$
$$-X'+\underset{s}{\underline{(X'+Z)}} \Rightarrow Z$$

mgu $\theta = \{-X/X', \ X/Z\}$

$CP = \langle X, \ --X+0 \rangle$

KB Algo: Consider $(X \Rightarrow --X+0) \cup R$ ✗

Consider $\boxed{(--X+0 \Rightarrow X)} \cup R$ ✓

From rules 3 and 4: $0+X \Rightarrow X$
$$-X'+\underset{s}{\underline{(X'+Z)}} \Rightarrow Z$$

mgu $\theta = \{0/X', \ X/Z\}$

$CP = \langle X, \ -0+X \rangle$

KB Algo: Consider $(X \Rightarrow -0+X)$ ✗; Consider $\boxed{(-0+X \Rightarrow X)}$ ✓