Tarea 3

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1. Ejercicio 1

$ssso + sssso$
$s(ssso + ssso)$
$s(s(ssso + sso))$
$s(s(s(ssso + so)))$
$s(s(s(s(ssso + o))))$
$s(s(s(s(sso + o)))))$
$s(s(s(s(s(so + o))))))$
$s(s(s(s(s(s(o))))))$
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2. Ejercicio 2

Caso Base
Por axiomas pasados, se sabe que cualquier número multiplicado por cero es igual a cero.

Caso Inductivo
$a \otimes b = a + (a * (b - 1))$
$a \otimes b = a + (ab - a)$
$a \otimes b = a + ab - a$
$a \otimes b = ab$
$a \otimes b = a \otimes b$

3. Ejercicio 3

$s(s(s(0))) \otimes 0$

Axioma = n por cero es 0

$s(s(s(0))) \otimes s(0)$
$s(s(s(0))) \otimes s(0)$ = ssso + (sss0 *(s0-s0)
$s(s(s(0))) \otimes s(0)$ = ssso + (sss0* (0)
$s(s(s(0))) \otimes s(0)$ = ssso

$s(s(s(0))) \otimes s(s(0))$
$s(s(s(0))) \otimes s(s(0))$ = sss0 + (sss0 * (ss0-s0)
$s(s(s(0))) \otimes s(s(0))$ =sss0 + (sss0*s0)
$s(s(s(0))) \otimes s(s(0))$ = sss0 + sss0
$s(s(s(0))) \otimes s(s(0))$ = ssssss0

4. Ejercicio 4

$a \oplus s(s(0)) = s(s(a))$
$a \oplus s(s(0)) = s(0) + s(a)$
$a \oplus s(s(0)) = s(s(0)) + a$
$a \oplus s(s(0)) = a \oplus s(s(0))$

$a \otimes b = b \otimes a$
$sa \otimes sb = sb \otimes sa$
$s(a \otimes b) = s(b \otimes a)$
$s(a \otimes b)/s = s(b \otimes a)/s$
$a \otimes b = b \otimes a$

Caso base C=0
$a \otimes (b \otimes 0) = (a \otimes b) \otimes 0$
$a \otimes 0 = (a \otimes b) \otimes 0$
Axioma = n por cero es 0
$0 = 0$

Caso Inductivo
$a \otimes (b \otimes c) = (a \otimes b) \otimes c$
$a \otimes bc = ab \otimes c$
$abc = abc$