

Example: Peano Arithmetic

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$$Sp_2(0) + Sp_1(0)$$

$$= Sp_2(Sp_1(0))$$

$$= Sp_2+p_1(0)$$

Example: Peano Arithmetic

$$\begin{aligned} & S^{p_2}(0) + S^{p_1}(0) \\ &= S^{p_2}(S^{p_1}(0)) \\ &= S^{p_2+p_1}(0) \end{aligned}$$

Example: Peano Arithmetic in Agda

```
_+_ : ℕ → ℕ → ℕ  
0 + n = n  
S(m) + n = S (m + n)
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