

Step 5

The diagram illustrates the following relationships:

- Top Row:**
 - $S^0 \wedge S^0 \xrightarrow{\text{id}_{\text{Sets}_*|S^0, S^0}^{\otimes, -1}} S^0 \otimes_{\text{Sets}_*} S^0$
 - $S^0 \otimes_{\text{Sets}_*} S^0 \xrightarrow{\mathbb{1}_{\text{Sets}_*} \wedge \text{id}_{S^0}^{\otimes, -1}} \mathbb{1}_{\text{Sets}_*} \otimes_{\text{Sets}_*} S^0$
- Bottom Row:**
 - $S^0 \wedge X \xrightarrow{\text{id}_{\text{Sets}_*|S^0, X}^{\otimes, -1}} S^0 \otimes_{\text{Sets}_*} X$
 - $S^0 \otimes_{\text{Sets}_*} X \xrightarrow{\mathbb{1}_{\text{Sets}_*} \wedge \text{id}_X^{\otimes, -1}} \mathbb{1}_{\text{Sets}_*} \otimes_{\text{Sets}_*} X$
- Left Column:**
 - $S^0 \xrightarrow{\lambda_{\text{Sets}_*, -1}^{S^0}} S^0 \wedge S^0$
 - $S^0 \xrightarrow{[x]} X$
 - $X \xrightarrow{\lambda_X^{\text{Sets}_*, -1}} S^0 \wedge X$
- Right Column:**
 - $\mathbb{1}_{\text{Sets}_*} \otimes_{\text{Sets}_*} S^0 \xrightarrow{\text{id}_{\mathbb{1}_{\text{Sets}_*}} \wedge [x]} \mathbb{1}_{\text{Sets}_*} \otimes_{\text{Sets}_*} X$
- Horizontal Maps:**
 - $S^0 \wedge S^0 \xrightarrow{\text{id}_{S^0} \wedge [x]} S^0 \wedge X$
 - $S^0 \otimes_{\text{Sets}_*} S^0 \xrightarrow{\text{id}_{S^0} \otimes_{\text{Sets}_*} [x]} S^0 \otimes_{\text{Sets}_*} X$
 - $\mathbb{1}_{\text{Sets}_*} \otimes_{\text{Sets}_*} S^0 \xrightarrow{\lambda_X'^{-1}} \mathbb{1}_{\text{Sets}_*} \otimes_{\text{Sets}_*} X$
- Annotations:**
 - (\nexists) is placed above the top horizontal map.
 - (1) is placed below the middle horizontal map.
 - (2) is placed below the bottom horizontal map.
 - (3) is placed to the left of the map $S^0 \wedge S^0 \rightarrow S^0 \wedge X$.
 - (4) is placed to the right of the map $S^0 \otimes_{\text{Sets}_*} S^0 \rightarrow S^0 \otimes_{\text{Sets}_*} X$.
 - (5) is placed in the center of the diagram.