



$$= \begin{array}{c} X \\ \downarrow \\ g \\ \downarrow W \\ f \\ \downarrow \\ V \end{array}$$

$$\begin{array}{c} W_1 \quad W_2 \\ \downarrow \quad \downarrow \\ f_1 \otimes f_2 \\ \downarrow \quad \downarrow \\ V_1 \quad V_2 \end{array} = \begin{array}{c} W_1 \quad W_2 \\ \downarrow \quad \downarrow \\ f_1 \quad f_2 \\ \downarrow \quad \downarrow \\ V_1 \quad V_2 \end{array}$$

$$\begin{array}{c} W_1 \quad W_2 \quad W_3 \\ \downarrow \quad \downarrow \quad \downarrow \\ t \\ \downarrow \quad \downarrow \\ V_1 \quad V_2 \end{array}$$

$$\eta_V \begin{array}{c} \downarrow I \\ \circ \\ V \quad V^* \end{array} \Rightarrow \begin{array}{c} \circ \\ V \end{array}$$

$$\begin{array}{c} V^* \downarrow \\ \epsilon_V \circ \\ \downarrow I \\ V \end{array} \Rightarrow \begin{array}{c} \circ \\ V \end{array}$$

$$\begin{array}{c} \circ \\ V \end{array} = \begin{array}{c} V \\ \downarrow \\ (\text{id}_V) \end{array}$$

$$\begin{array}{c} \circ \\ V \end{array} = \begin{array}{c} V \\ \uparrow \\ (\text{id}_{V^*}) \end{array}$$

$$\tilde{\eta}_V \begin{array}{c} \downarrow I \\ \circ \\ *V \quad V \end{array} \Rightarrow \begin{array}{c} \circ \\ V \end{array}$$

$$\begin{array}{c} *V \downarrow \\ \tilde{\epsilon}_V \circ \\ \downarrow I \\ V \end{array} \Rightarrow \begin{array}{c} \circ \\ V \end{array}$$

$$\begin{array}{c} \circ \\ V \end{array} = \begin{array}{c} V \\ \uparrow \\ (\text{id}_{*V}) \end{array}$$

$$\begin{array}{c} \circ \\ V \end{array} = \begin{array}{c} V \\ \downarrow \\ (\text{id}_V) \end{array}$$

$$\begin{array}{c} \uparrow \\ f^* \\ \uparrow \end{array} = \begin{array}{c} \uparrow \\ \circ \\ f \\ \downarrow \end{array}$$

$$\begin{array}{c} \uparrow \\ *f \\ \uparrow \end{array} = \begin{array}{c} \uparrow \\ \circ \\ f \\ \downarrow \end{array}$$

$$\begin{array}{c} \circ \\ t \\ \downarrow \quad \downarrow \quad \downarrow \end{array}$$

$$\text{tr}_{\text{left}}(f) = \begin{array}{c} \circ \\ f \\ \circ \end{array}$$

$$\text{tr}_{\text{right}}(f) = \begin{array}{c} \circ \\ f \\ \circ \end{array}$$

