$$
\begin{array}{rcl@{\qquad}rcl}
e & := & n \mid \texttt{true} \mid \texttt{false} & n & := & \text{number literals} \\
 & \mid & \texttt{(let (}x\ e\texttt{)}\ e\texttt{)} & x & := & \text{variable names} \\
 & \mid & \texttt{(+}\ e\ e\texttt{)} \mid \texttt{(<}\ e\ e\texttt{)} & \tau & := & \mathsf{Num} \mid \mathsf{Bool} \\
 & \mid & \texttt{(if}\ e\ e\ e\texttt{)} & \Gamma & := & \{x : \tau, \cdots\}
\end{array}
$$

TR-Num $n : \mathsf{Num}$ TR-True $\texttt{true} : \mathsf{Bool}$ TR-False $\texttt{true} : \mathsf{Bool}$

$$\text{TR-Plus}\ \frac{\qquad\qquad}{\texttt{(+}\ e_1\ e_2\texttt{)} : \square} \qquad \text{TR-Less}\ \frac{\qquad\qquad}{\texttt{(<}\ e_1\ e_2\texttt{)} : \square}$$

TR-Id $\dfrac{\boxed{}}{\Gamma \vdash x : \boxed{}}$

TR-Let $\dfrac{\boxed{}}{\Gamma \vdash \texttt{(let (}x\ e_1\texttt{)}\ e_2\texttt{)} : \boxed{}}$

TR-IfA $\dfrac{\Gamma \vdash e_1 : \tau_1 \qquad \Gamma \vdash e_2 : \tau_2 \qquad \Gamma \vdash e_3 : \tau_3}{\Gamma \vdash \texttt{(if}\ e_1\ e_2\ e_3\texttt{)} : \tau_1}$

TR-IfB $\dfrac{\Gamma \vdash e_1 : \mathsf{Bool} \qquad \Gamma \vdash e_2 : \tau_2 \qquad \Gamma \vdash e_3 : \tau_3}{\Gamma \vdash \texttt{(if}\ e_1\ e_2\ e_3\texttt{)} : \tau_2}$

TR-IfC $\dfrac{\Gamma \vdash e_1 : \mathsf{Bool} \qquad \Gamma \vdash e_2 : \tau_2 \qquad \Gamma \vdash e_3 : \tau_3}{\Gamma \vdash \texttt{(if}\ e_1\ e_2\ e_3\texttt{)} : \tau_3}$

TR-IfD $\dfrac{\Gamma \vdash e_1 : \tau_1 \qquad \Gamma \vdash e_2 : \tau_2 \qquad \Gamma \vdash e_3 : \tau_3}{\Gamma \vdash \texttt{(if}\ e_1\ e_2\ e_3\texttt{)} : \tau_2}$

TR-IfE: None of the above

$$\text{TR-SET}\ \frac{\Gamma \vdash e : \tau_1 \qquad \Gamma[x] = \tau_2}{\Gamma \vdash \texttt{(set}\ \ x\ \ e\texttt{)} : \tau_2}$$