

$$\begin{array}{c}
\text{(t3)} \frac{[x \rightarrow \text{int}, f \rightarrow \text{int} \rightarrow \text{int}](x) : \text{int}}{[x \rightarrow \text{int}, f \rightarrow \text{int} \rightarrow \text{int}] \vdash x : t} \quad [x \rightarrow \text{int}, f \rightarrow \text{int} \rightarrow \text{int}] \vdash 1 : \text{int} \\
\text{(t8)} \frac{}{[x \rightarrow \text{int}, f \rightarrow \text{int} \rightarrow \text{int}] \vdash x + 1 : \text{int}}
\end{array}
\qquad
\begin{array}{c}
\text{(t1)} \frac{}{[x \rightarrow \text{int}, f \rightarrow \text{int} \rightarrow \text{int}] \vdash 3 : \text{int}} \quad \text{(t3)} \frac{[x \rightarrow \text{int}, f \rightarrow \text{int} \rightarrow \text{int}](f) : \text{int} \rightarrow \text{int}}{[x \rightarrow \text{int}, f \rightarrow \text{int} \rightarrow \text{int}] \vdash f : \text{int} \rightarrow \text{int}} \\
\text{(|>)} \frac{}{[x \rightarrow \text{int}, f \rightarrow \text{int} \rightarrow \text{int}] \vdash 3 \mid > f : \text{int}}
\end{array}$$

$$\frac{}{[] \vdash \text{let } f \, x = x + 1 \text{ in } 3 \mid > f \text{ end} : \text{int}}$$