

$$\begin{array}{c}
\frac{}{cst} \\
\frac{}{<3, [], []>=3} \\
\frac{}{var} \\
\frac{}{<(:1), [<3, [], 6>; <(\emptyset.(:1)), [], 6>], []>=><3, [], 6>} \\
\frac{}{var} \\
\frac{}{<(:1), [<(:1), [<3, [], 6>; <(\emptyset.(:1)), [], 6>], 6>], []>=><3, [], 6>} \\
\frac{}{abs} \\
\frac{}{<(\emptyset.(:1)), [], [<(:1), [<3, [], 6>; <(\emptyset.(:1)), [], 6>], 6>]>=><3, [], 6>} \\
\frac{}{var} \\
\frac{}{<(:2), [<3, [], 6>; <(\emptyset.(:1)), [], 6>], [<(:1), [<3, [], 6>; <(\emptyset.(:1)), [], 6>], 6>]>=><3, [], 6>} \\
\frac{}{app} \\
\frac{}{<((:2)(:1)), [<3, [], 6>; <(\emptyset.(:1)), [], 6>], []>=><3, [], 6>} \\
\frac{}{abs} \\
\frac{}{<(\emptyset.((:2)(:1))), [<(\emptyset.(:1)), [], 6>], [<3, [], 6>]>=><3, [], 6>} \\
\frac{}{abs} \\
\frac{}{<(\emptyset.(\emptyset.((:2)(:1)))) , [], [<(\emptyset.(:1)), [], 6>; <3, [], 6>]>=><3, [], 6>} \\
\frac{}{app} \\
\frac{}{<((\emptyset.(\emptyset.((:2)(:1))))(\emptyset.(:1))), [], [<3, [], 6>]>=><3, [], 6>} \\
\frac{}{app} \\
\frac{}{<(((\emptyset.(\emptyset.((:2)(:1))))(\emptyset.(:1)))3), [], []>=><3, [], 6>} \\
\frac{}{} \\
\frac{}{cst} \quad \frac{}{cst} \\
\frac{}{<4, [], []>=4} \quad \frac{}{<3, [], []>=3} \\
\frac{}{op} \\
\frac{}{<(:-2), [<4, [], 6>; <3, [], 6>], []>=>12} \\
\frac{}{abs} \\
\frac{}{<(\emptyset.(:-2)), [<3, [], 6>], [<4, [], 6>]>=><12, [], 0>} \\
\frac{}{abs} \\
\frac{}{<(\emptyset.(\emptyset.(:-2))), [], [<3, [], 6>; <4, [], 6>]>=><12, [], 0>} \\
\frac{}{var} \\
\frac{}{<(:4), [], [<3, [], 6>; <4, [], 6>]>=><12, [], 0>} \\
\frac{}{app} \\
\frac{}{<((:4)3), [], [<4, [], 6>]>=><12, [], 0>} \\
\frac{}{app} \quad \frac{}{cst} \\
\frac{}{<((((:4)3)4), [], []>=><12, [], 0>)} \quad \frac{}{<2, [], []>=2} \\
\frac{}{op} \\
\frac{}{<(:0), [<((((:4)3)4), [], 6>; <2, [], 6>], []>=>14} \\
\frac{}{abs} \\
\frac{}{<(\emptyset.(:0)), [<2, [], 6>], [<((((:4)3)4), [], 6>]>=><14, [], 0>} \\
\frac{}{abs} \\
\frac{}{<(\emptyset.(\emptyset.(:0))), [], [<2, [], 6>; <((((:4)3)4), [], 6>]>=><14, [], 0>} \\
\frac{}{var} \\
\frac{}{<(:6), [], [<2, [], 6>; <((((:4)3)4), [], 6>]>=><14, [], 0>} \\
\frac{}{app} \\
\frac{}{<((:6)2), [], [<((((:4)3)4), [], 6>]>=><14, [], 0>} \\
\frac{}{app} \\
\frac{}{<((((:6)2)(((:4)3)4))), [], []>=><14, [], 0>} \\
\frac{}{} \\
\frac{}{abs} \\
\frac{}{<(\emptyset.((((:7)(:1))3)), [], []>=><(\emptyset.(((+:7)(x:1))3)), [], 6>} \\
\frac{}{}
\end{array}$$

$$\begin{array}{c}
\frac{}{cst} \\
\frac{}{\langle 4, \square, \square \rangle \Rightarrow 4} \\
\frac{}{cst} \quad \frac{}{var} \\
\frac{\langle 3, [\langle 4, \square, 7 \rangle], \square \rangle \Rightarrow 3 \quad \langle (:1), [\langle 4, \square, 7 \rangle], \square \rangle \Rightarrow \langle 4, \square, 7 \rangle}{op} \\
\frac{\langle (:0), [\langle 3, [\langle 4, \square, 7 \rangle], 6 \rangle; \langle (:1), [\langle 4, \square, 7 \rangle], 6 \rangle], \square \rangle \Rightarrow 7}{abs} \\
\frac{\langle (\emptyset. (:0)), [\langle (:1), [\langle 4, \square, 7 \rangle], 6 \rangle], [\langle 3, [\langle 4, \square, 7 \rangle], 6 \rangle] \rangle \Rightarrow \langle 7, \square, 0 \rangle}{abs} \\
\frac{\langle (\emptyset. (\emptyset. (:0))), \square, [\langle (:1), [\langle 4, \square, 7 \rangle], 6 \rangle; \langle 3, [\langle 4, \square, 7 \rangle], 6 \rangle] \rangle \Rightarrow \langle 7, \square, 0 \rangle}{var} \\
\frac{\langle (:7), [\langle 4, \square, 7 \rangle], [\langle (:1), [\langle 4, \square, 7 \rangle], 6 \rangle; \langle 3, [\langle 4, \square, 7 \rangle], 6 \rangle] \rangle \Rightarrow \langle 7, \square, 0 \rangle}{app} \\
\frac{\langle ((:7) (:1)), [\langle 4, \square, 7 \rangle], [\langle 3, [\langle 4, \square, 7 \rangle], 6 \rangle] \rangle \Rightarrow \langle 7, \square, 0 \rangle}{app} \\
\frac{\langle (((:7) (:1)) 3), [\langle 4, \square, 7 \rangle], \square \rangle \Rightarrow \langle 7, \square, 0 \rangle}{abs} \\
\frac{\langle (\emptyset. (((:7) (:1)) 3)), \square, [\langle 4, \square, 7 \rangle] \rangle \Rightarrow \langle 7, \square, 0 \rangle}{var} \\
\frac{\langle (:1), \square, [\langle 4, \square, 7 \rangle] \rangle \Rightarrow \langle 7, \square, 0 \rangle}{app} \\
\frac{\langle ((:1) 4), \square, \square \rangle \Rightarrow \langle 7, \square, 0 \rangle}{app}
\end{array}$$