

Proof number 1:  $\overline{(\text{=}(f(x))(oct_2))\textit{Interpolant} : (\textit{false})}$  asserted

Proof number 2:  $\overline{(\text{=}(3)(oct_2))\textit{Interpolant} : (\textit{false})}$  asserted

Proof number 3:  $\overline{(\text{or}(\text{=}(x)(2))(\text{not}(\leq(x)(2)))(\text{not}(\geq(x)(2))))\textit{Interpolant} : (\textit{true})}$  th-lemma

Proof number 4:  $\overline{(\leq(x)(2))\textit{Interpolant} : (\textit{true})}$  asserted

Proof number 5:  $\overline{(\text{or}(\geq(x)(2))(\leq(x)(1)))\textit{Interpolant} : (\textit{true})}$  th-lemma

Proof number 6:  $\overline{(\text{or}(\text{=}(x)(1))(\text{not}(\leq(x)(1)))(\text{not}(\geq(x)(1))))\textit{Interpolant} : (\textit{true})}$  th-lemma

Proof number 7:  $\overline{(\leq(1)(x))\textit{Interpolant} : (\textit{false})}$  asserted

Proof number 8:  $\overline{(\leq(1)(x))\textit{Interpolant} : (\textit{false})}$  x

Proof number 8:  $\overline{(\geq(x)(1))\textit{Interpolant} : (\textit{true})}$  provable

Proof number 9:  $\overline{(\text{or}(\text{=}(x)(1))(\text{not}(\leq(x)(1)))(\text{not}(\geq(x)(1))))\textit{Interpolant} : (\textit{true})}$  x  $\overline{(\geq(x)(1))\textit{Interpolant} : (\textit{true})}$  x

Proof number 9:  $\overline{(\text{or}(\text{=}(x)(1))(\text{not}(\leq(x)(1)))(\text{not}(\geq(x)(1))))\textit{Interpolant} : (\textit{true})}$  unit-resolution

Proof number 10:  $\overline{(\text{not}(\text{=}(x)(1)))\textit{Interpolant} : (\textit{true})}$  lemma

Proof number 11:  $\overline{(\text{or}(\text{=}(x)(1))(\text{not}(\leq(x)(1))))\textit{Interpolant} : (\textit{true})}$  x  $\overline{(\text{not}(\text{=}(x)(1)))\textit{Interpolant} : (\textit{true})}$  x

Proof number 11:  $\overline{(\text{not}(\leq(x)(1)))\textit{Interpolant} : (\textit{true})}$  unit-resolution

Proof number 12:  $\overline{(\text{or}(\geq(x)(2))(\leq(x)(1)))\textit{Interpolant} : (\textit{true})}$  x  $\overline{(\text{not}(\leq(x)(1)))\textit{Interpolant} : (\textit{true})}$  x

Proof number 12:  $\overline{(\geq(x)(2))\textit{Interpolant} : (\textit{true})}$  unit-resolution

Proof number 13:  $\overline{(\text{or}(\text{=}(x)(2))(\text{not}(\leq(x)(2)))(\text{not}(\geq(x)(2))))\textit{Interpolant} : (\textit{true})}$  x  $\overline{(\leq(x)(2))\textit{Interpolant} : (\textit{true})}$  x  $\overline{(\geq(x)(2))\textit{Interpolant} : (\textit{true})}$  x

Proof number 13:  $\overline{(\text{=}(x)(2))\textit{Interpolant} : (\textit{true})}$  unit-resolution

Proof number 14:  $\overline{(\text{=}(f(b))(oct_4))\textit{Interpolant} : (\textit{true})}$  asserted

Proof number 15:  $\overline{(\text{=}(5)(oct_4))\textit{Interpolant} : (\textit{true})}$  asserted

Proof number 16:  $\overline{(\text{=}(b)(oct_5))\textit{Interpolant} : (\textit{true})}$  asserted

Proof number 17:  $\overline{(\text{=}(2)(oct_5))\textit{Interpolant} : (\textit{true})}$  asserted

Proof number 18:  $\overline{(\text{=}(f(x))(oct_2))\textit{Interpolant} : (\textit{false})}$  x  $\overline{(\text{=}(3)(oct_2))\textit{Interpolant} : (\textit{false})}$  x  $\overline{(\text{=}(x)(2))\textit{Interpolant} : (\textit{true})}$  x  $\overline{(\text{=}(f(b))(oct_4))\textit{Interpolant} : (\textit{true})}$  x  $\overline{(\text{=}(5)(oct_4))\textit{Interpolant} : (\textit{true})}$  x  $\overline{(\text{=}(b)(oct_5))\textit{Interpolant} : (\textit{true})}$  x  $\overline{(\text{=}(2)(oct_5))\textit{Interpolant} : (\textit{true})}$  x

Proof number 18:  $\overline{(\text{false})\textit{Interpolant} : (\textit{true})}$  provable