$(not(\leq (+(f(x1)(0))(*(-(1))(x3)))(-(1))))$
Proof/Definition of a!1
$(not(\geq (+(f(x1)(0))(*(-(1))(x3)))(0)))$
Proof/Definition of a!2
$(= (\geq (f(x1)(0))(x3))(\geq (+(f(x1)(0))(*(-(1))(x3)))(0)))$
Proof/Definition of a!3
$$\dfrac{\dfrac{}{(\geq (-(x3)(f(x1)(0)))(1))}\ \text{definition}}{}\ \text{asserted}$$
Proof/Definition of a!5
$(= (-(x3)(f(x1)(0)))(+(x3)(*(-(1))(f(x1)(0)))))$
Proof/Definition of a!6
$(\geq (+(x3)(*(-(1))(f(x1)(0))))(1))$
Proof/Definition of a!7
$(= (+(x3)(*(-(1))(f(x1)(0))))(+(*(-(1))(f(x1)(0)))(x3)))$
Proof/Definition of a!9
$(\geq (+(*(-(1))(f(x1)(0)))(x3))(1))$
Proof/Definition of a!10
$$\dfrac{\dfrac{\dfrac{}{(\geq (f(x1)(0))(x3))}\ \text{definition}}{}\ \text{asserted} \quad \dfrac{\dfrac{}{(a!3)}\ \text{definition}}{}\ \text{rewrite} \quad \dfrac{}{(\geq (+(f(x1)(0))(*(-(1))(x3)))(0))}\ \text{definition}}{}\ \text{mp}$$
Proof/Definition of a!4
$(= (\geq (-(x3)(f(x1)(0)))(1))(a!7))$
Proof/Definition of a!8
$(= (a!10)(\leq (+(f(x1)(0))(*(-(1))(x3)))(-(1))))$
Proof/Definition of a!11
$(= (a!7)(\leq (+(f(x1)(0))(*(-(1))(x3)))(-(1))))$
Proof/Definition of a!12
$$\dfrac{\dfrac{}{(a!5)}\ \text{definition} \quad \dfrac{\dfrac{}{(a!6)}\ \text{definition}}{}\ \text{rewrite} \quad \dfrac{}{(a!8)}\ \text{definition}}{}\ \text{monotonicity} \quad \dfrac{}{(a!7)}\ \text{definition}}{}\ \text{mp} \quad \dfrac{\dfrac{}{(a!9)}\ \text{definition}}{}\ \text{rewrite} \quad \dfrac{}{(= (a!7)(a!10))}\ \text{definition}}{}\ \text{monotonicity} \quad \dfrac{}{(a!11)}\ \text{definition}}{}\ \text{rewrite} \quad \dfrac{}{(a!12)}\ \text{definition}}{}\ \text{trans} \quad \dfrac{}{(\leq (+(f(x1)(0))(*(-(1))(x3)))(-(1)))}\ \text{definition}}{}\ \text{mp}$$
Proof/Definition of a!13
$$\dfrac{\dfrac{}{(or(a!1)(a!2))}\ \text{definition}}{}\ \text{th-lemma} \quad \dfrac{}{(a!4)}\ \text{definition} \quad \dfrac{}{(a!13)}\ \text{definition} \quad \dfrac{}{(false)}\ \text{definition}}{}\ \text{unit-resolution}$$