

**CONTEXT****Theorems****AXIOMS**

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axm1 :  $\forall a,b,c,d. a \mapsto b \in \text{leq} \wedge c \mapsto d \in \text{leq} \Rightarrow \text{plus}(a \mapsto c) \mapsto \text{plus}(b \mapsto d) \in \text{leq}$ 
axm2 :  $\forall a,b,c,d. \text{Rzero} \mapsto a \in \text{leq} \wedge \text{Rzero} \mapsto b \in \text{leq} \wedge \text{Rzero} \mapsto c \in \text{leq} \wedge \text{Rzero} \mapsto d \in \text{leq} \wedge a \mapsto b \in \text{leq} \wedge c \mapsto d \in \text{leq} \Rightarrow \text{times}(a \mapsto c) \mapsto \text{times}(b \mapsto d) \in \text{leq}$ 
axm3 :  $\forall a,b,c. a \mapsto b \in \text{leq} \wedge b \mapsto c \in \text{leq} \Rightarrow a \mapsto c \in \text{leq}$ 
axm4 :  $\forall a,b. a \in \text{RReal} \wedge b \in \text{RReal} \Rightarrow$ 
       $\text{minus}(\text{times}(a \mapsto a) \mapsto \text{times}(b \mapsto b)) = \text{times}(\text{plus}(a \mapsto b) \mapsto \text{minus}(a \mapsto b))$ 
axm5 :  $\forall a. a \in \text{RReal} \Rightarrow \text{uminus}(a) = \text{minus}(\text{Rzero} \mapsto a)$ 
       $\forall a. a \in \text{RReal} \Rightarrow$ 
       $a = \text{plus}(\text{times}(\text{divide}(\text{Rone} \mapsto \text{Rtwo}) \mapsto a)$ 
axm6 :  $\mapsto \text{times}(\text{divide}(\text{Rone} \mapsto \text{Rtwo}) \mapsto a)$ 
       $)$ 
axm7 :  $\forall a,b. a \in \text{RReal} \wedge b \in \text{RReal} \wedge \text{times}(a \mapsto b) \in \text{RRealStar} \Rightarrow$ 
       $\text{inverse}(\text{times}(a \mapsto b)) = \text{times}(\text{inverse}(a) \mapsto \text{inverse}(b))$ 

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**END**