

sum_of_torder^{11,40}

sum_of_torder($T;R$)

$$\equiv_{\text{def}} \forall a, b, x:T. \\ ((R(a,x) \ \& \ R(b,x)) \vee (R(x,a) \ \& \ R(x,b))) \Rightarrow (((R(a,b)) \vee (a = b)) \vee (R(b,a)))$$

clarification:

sum_of_torder($T;R$)

$$\equiv_{\text{def}} \forall a:T. \\ \forall b:T, x:T. \\ ((R(a,x) \ \& \ R(b,x)) \vee (R(x,a) \ \& \ R(x,b))) \Rightarrow (((R(a,b)) \vee (a = b \in T)) \vee (R(b,a)))$$