

integ_dom_p^{13,42}

$\text{IsIntegDom}(r) \equiv_{\text{def}} 0 \neq 1 \in |r| \ \& \ (\forall u, v:|r|. \ (\neg(v = 0)) \Rightarrow ((u * v) = 0) \Rightarrow (u = 0))$

clarification:

$\text{IsIntegDom}(r)$
 $\equiv_{\text{def}} 0r \neq 1r \in |r|$
 $\ \& \ (\forall u:|r|, v:|r|. \ (\neg(v = (0r) \in |r|)) \Rightarrow ((u (*r) v) = (0r) \in |r|) \Rightarrow (u = (0r) \in |r|))$