

Symbolization in RPL

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Instructions: Symbolize the following sentences into RPL using the translation dictionary given below.

D^2xy = “ x defeated y ”

E^2xy = “ x is the enemy of y ”

F^2xy = “ y decides the fate of x ”

G^1x = “ x is a gladiator”

W^3xyz = “ z watched x fight y ”

1. Every gladiator has defeated another gladiator.
2. No gladiator has defeated him/herself.
3. Someone decides the fate of every gladiator. (Two readings; symbolize both)
4. Everyone has an enemy, but no one is his/her own enemy.
5. If someone’s enemies has enemies, then they are that person’s enemies as well.
6. Every gladiator has defeated everyone that was defeated by someone he has defeated.
7. Marcus was defeated by one of his enemies.
8. If someone is the enemy of Spartacus, then they decide his (Spartacus’s) fate provided that they defeat him (Spartacus).
9. Nero decides the fate of a gladiator iff he watched that gladiator fight someone that defeated him.
10. Someone decides the fate of all and only those who doesn’t decide their own fate.
11. Every gladiator who was watched fighting their enemy decided the fate of another gladiator they watched their enemy fight.
12. No gladiator watched someone who decided their fate fight someone else.