

Reflexive

Total

Transitive

Symmetric

$$\frac{\top}{xRx}$$

$$\frac{\top}{xRy \vee yRx}$$

$$\frac{xRy \quad xRy}{xRz}$$

$$\frac{xRx'}{x'Rx}$$

[bp]

Asymmetric

Irreflexive

Antisymmetric

$$\frac{xRy \quad yRx}{\perp}$$

$$\frac{xRx}{\perp}$$

$$\frac{xRy \quad yRx}{x = y}$$