$$\Gamma \vdash_{\Sigma,\Omega} t :^{d} A$$

$$\Gamma \vdash_{\Sigma,\Omega} t : A$$

Soundness

Completeness

$$\Gamma \not\vdash_{\Sigma,\Omega} t : A$$

$$\Gamma \nvdash_{\Sigma,\Omega} t :^{d} A$$

$$|\Gamma| \vdash_{\Sigma,\Omega} t^{d}$$

Type Synthesis as Trichotomy on Raw Terms

one of the following holds

for some

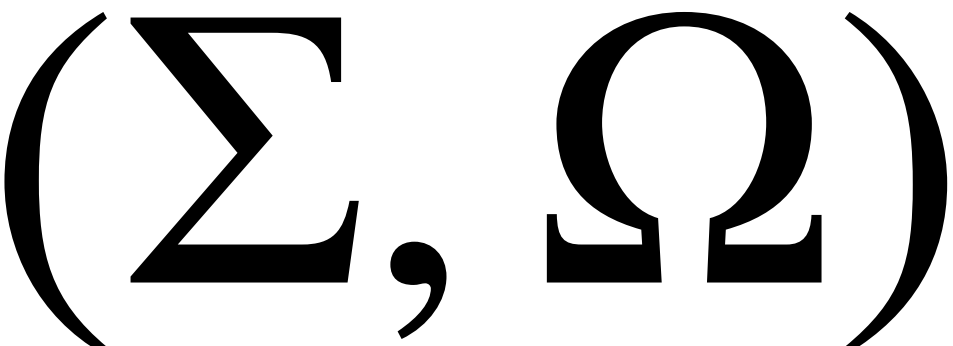

and

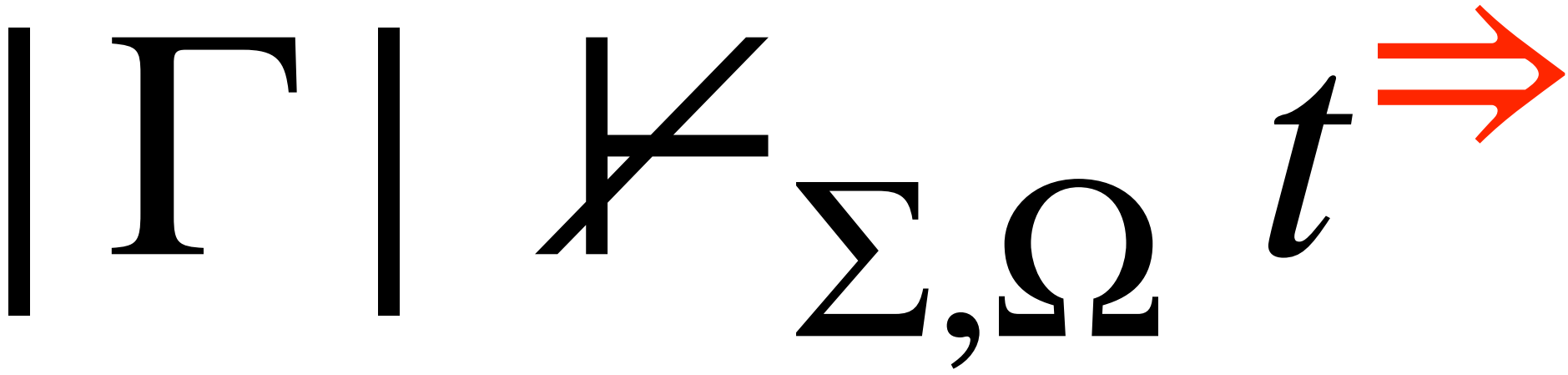
For any mode-correct system

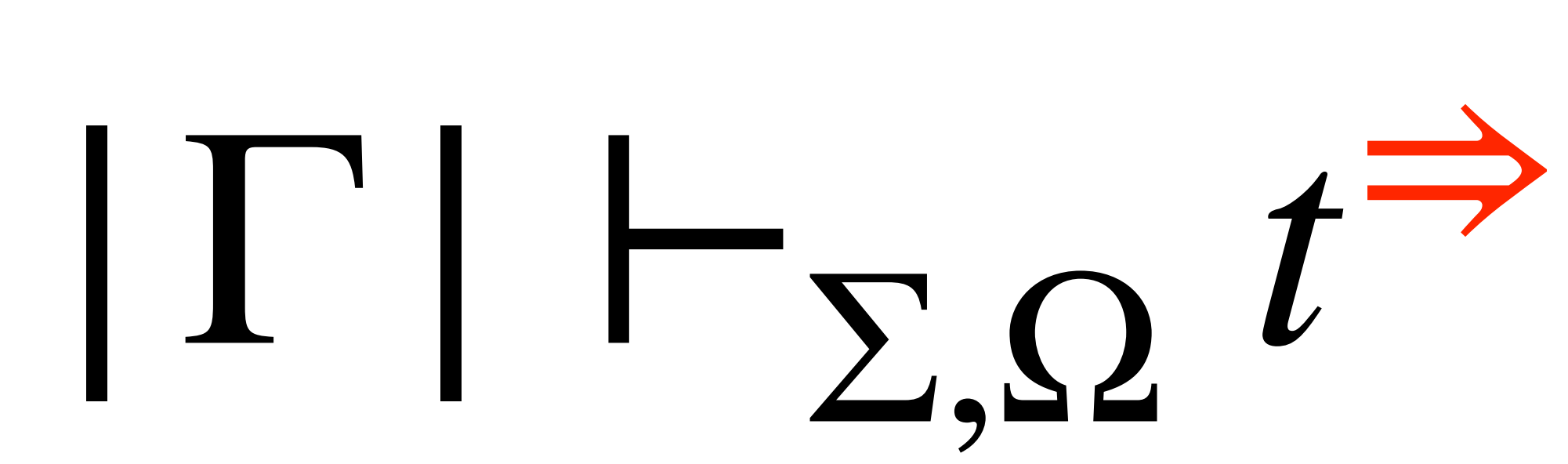
but

for any

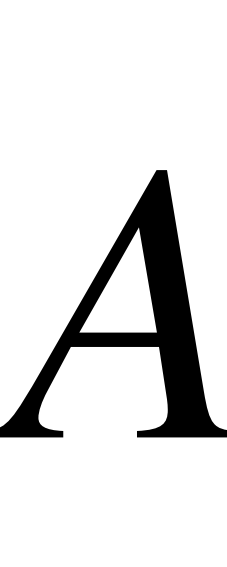
, exactly

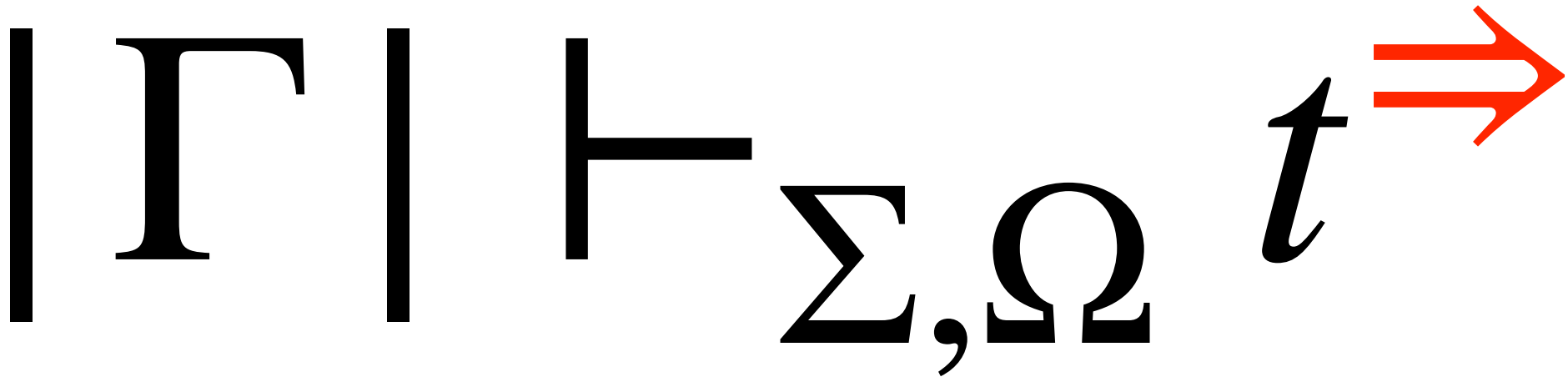




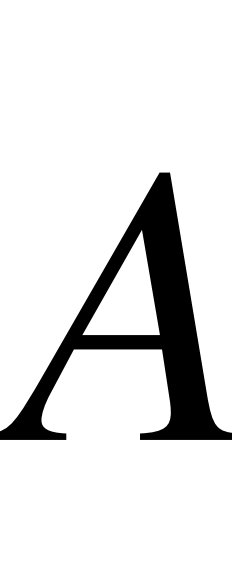


$$\Gamma \nvdash_{\Sigma,\Omega} t : A$$





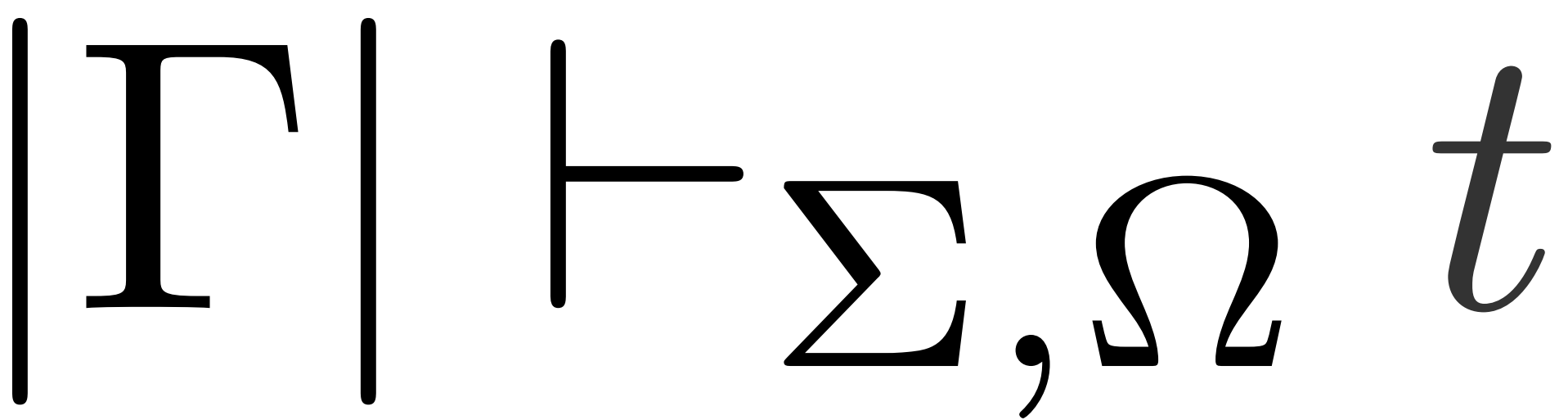
$$\Gamma \vdash t : A$$



Soundness &

Completeness

Mode Decoration



Bidirectional Type

Synthesis

Type Synthesis

$$\Gamma \vdash_{\Sigma,\Omega} t :^{d} A$$

$$\Gamma \vdash_{\Sigma,\Omega} t : A$$

$$|\Gamma| \vdash_{\Sigma,\Omega} t^{d}$$