$$\mathfrak{D}(\Gamma)^{-1/2}\, n(c)^{-r/2}$$

Also

$$\vartheta_{v+\Gamma}|A = n(c)^{r/2}\, i^{-rn/2}\, \mathfrak{D}(c\Gamma)^{-1/2}$$

$$\times \sum_{w\in\hat\Gamma/\Gamma} e^{-\pi i\, \mathrm{tr}(+2b\, v.w + bd w^2)} \sum_{\substack{\tilde v\in\hat\Gamma/c\Gamma \\ \tilde v \equiv v+dw(\Gamma)}} e^{\pi i\, \mathrm{tr}\frac{a}{c}\tilde v^2}\ \vartheta_{w+\Gamma}$$

Es gilt

$$\mathfrak{D}(c\Gamma)\, \#\Gamma/c\Gamma^{\,2} = \mathfrak{D}(\Gamma)$$

und $\# \Gamma/c\Gamma = |n(c)|^r$ (Sei $\Gamma_1 \supseteq \Gamma$ und $\Gamma_1 \simeq \mathcal{O}^r$, dann $\Gamma \underset{\text{Index } t}{\subseteq} \Gamma_1$

Index $|n(c)|^r$ ~~[illegible]~~

$c\Gamma \underset{\text{Index } t}{\subseteq} c\Gamma_1$, also $c\Gamma_1 \underset{\text{Index}}{\subseteq} \Gamma_1$, ich $\Gamma_1/c\Gamma_1 \simeq (\mathcal{O}/c)^r$)

so daß

$$n(c)^{r/2}\, \mathfrak{D}(c\Gamma)^{-1/2} = \frac{n(c)^{r/2}}{|n(c)|^r}\, \mathfrak{D}(\Gamma)^{-1/2}$$

Beweis des Korollars

Setze in die Summe $S = \sum_{\substack{\tilde v\in\hat\Gamma/c\Gamma \\ \tilde v \equiv v+dw(\Gamma)}} e^{\pi i\, \mathrm{tr}\frac{a}{c}\tilde v^2}$ jetzt $\tilde v + c v_0 \to \tilde v$,

wo ~~$c\Gamma$~~ $v_0\in\hat\Gamma$ ist $\underline{c v_0 \in \Gamma}$, dann

$$S = \sum_{\substack{\tilde v\in\hat\Gamma/c\Gamma \\ \tilde v \equiv v+dw(\Gamma)}} e^{\pi i\, \mathrm{tr}\frac{a}{c}\tilde v^2}\ e^{\pi i\, \mathrm{tr}(2a\tilde v\cdot v_0 + ac v_0^2)}$$

$$= e^{\pi i\, \mathrm{tr}(2a(v+dw)v_0 + ac v_0^2)}\, S$$

Nehme mir jetzt an, daß $\underline{\mathrm{tr}\, ac v_0^2 \in \mathbb{Z}\ \forall v_0\in\hat\Gamma}$, so $S\neq 0$ höchstens für $av + adw \underset{\Gamma}{\equiv} av + w \in \Gamma$, und so

$$\vartheta_{v+\Gamma}|A = \mathfrak{D}(\Gamma)^{-1/2}\, \underset{i^{-rn/2}}{\wedge}\, n(c)^{-r/2}\, e^{+\pi i\, \mathrm{tr}(2ab\, v^2 - abd^2 v^2)} \sum_{\hat v\in\Gamma/c\Gamma} e^{\pi i\, \mathrm{tr}\frac{a}{c}\hat v^2}\ \vartheta_{av+\Gamma}$$