4a. Character

§2.3

In[ ]:=
```
km[eta, al, bt] // Simplify // MatrixForm
%[[3, 3]]^(-j / 2) /. (gg_^ee_)^ff_ :> gg^(ee ff) // FullSimplify
mm[eta] // Simplify // MatrixForm
%[[3, 3]]^j
```

Out[ ]//MatrixForm=

$$\begin{pmatrix} \text{al eta} & \text{bt eta} & 0 \\ -\text{eta Conjugate[bt]} & \text{eta Conjugate[al]} & 0 \\ 0 & 0 & \frac{1}{\text{eta}^2} \end{pmatrix}$$

Out[ ]= eta^j

Out[ ]//MatrixForm=

$$\begin{pmatrix} \text{eta} & 0 & 0 \\ 0 & \frac{1}{\text{eta}^2} & 0 \\ 0 & 0 & \text{eta} \end{pmatrix}$$

Out[ ]= eta^j