



$$D \frac{2\pi}{3} \frac{4\pi}{3}$$

$$E, D, F = D^2$$

$$C_3 = \{E, D, F\} \times \{E, A\} = D_3$$

$$B = DAF$$

$$C = FAD$$

$$D_3/C_3 \cong C_2 \Rightarrow 2 \text{ 1dim. Irrep.}$$

$$6 - 1^2 + 1^2 = 2^2 \Rightarrow \text{a 2dim Irrep.}$$

C. Class:  
~~(A, B, C)~~  
 (A B C) (E) (D A F)

Useless Here.

$C_3$	E	D	F
A	1	1	1
$\textcircled{E}$	1	$\omega$	$\omega^*$
$\textcircled{F}$	1	$\omega^*$	$\omega$

$C_2$	E	A
A	1	1
B	1	-1

$$\omega = \exp \frac{2\pi i}{3}$$



The identity representatives

$D_3$	E	$\{A\}$	$\{D\}$
1	1	1	1
1	1	-1	1
2	0	-1	-1

$\{E, D\} \rightarrow \text{identity } 1$   
 $\{A\} \rightarrow \text{invert } -1$

obtained via the orthogonal relations.