Trivial se	ource char	acter tabl	e of $G$	$\cong$ C12 ·	C4 at a	n=2

Ordinary character table of  $G \cong C12 : C4$ :

invia source character table of $G = C12$ . C4 at $p = 2$ .												
Normalisers $N_i$	$N_1$	$N_2$	$N_3$	$N_4$	$N_5$	$N_6$	$N_7$	$N_8$ $N_9$	$N_{10}$	$N_{11}$	$N_{12}$ $I$	$N_{13}$
p-subgroups of $G$ up to conjugacy in $G$		$P_2$	$P_3$	$P_4$	$P_5$	$P_6$	$P_7$	$P_8$ $P_9$	$P_{10}$	$P_{11}$	$P_{12}$ $I$	$P_{13}$
Representatives $n_j \in N_i$	1a  3a	1a 3a	1a 3a	1a 3a	1a 3a	1a 3a	1a $3a$	1a   1a	$a \mid 1a  3a$	1a	1a	1a
$1 \cdot \chi_1 + 1 \cdot \chi_2 + 1 \cdot \chi_3 + 1 \cdot \chi_4 + 1 \cdot \chi_5 + 1 \cdot \chi_6 + 1 \cdot \chi_7 + 1 \cdot \chi_8 + 0 \cdot \chi_9 + 0 \cdot \chi_{10} + 0 \cdot \chi_{11} + 0 \cdot \chi_{12} + 2 \cdot \chi_{13} + 2 \cdot \chi_{14} + 0 \cdot \chi_{15} + 0 \cdot \chi_{16} + 0 \cdot \chi_{17} + 0 \cdot \chi_{18}$	16 16	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0	0	0
$0 \cdot \chi_1 + 0 \cdot \chi_2 + 0 \cdot \chi_3 + 0 \cdot \chi_4 + 0 \cdot \chi_5 + 0 \cdot \chi_6 + 0 \cdot \chi_7 + 0 \cdot \chi_8 + 1 \cdot \chi_9 + 1 \cdot \chi_{10} + 1 \cdot \chi_{11} + 1 \cdot \chi_{12} + 0 \cdot \chi_{13} + 0 \cdot \chi_{14} + 1 \cdot \chi_{15} + 1 \cdot \chi_{16} + 1 \cdot \chi_{17} + 1 \cdot \chi_{18}$	16 - 8	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0	0	0
$\boxed{1 \cdot \chi_1 + 1 \cdot \chi_2 + 1 \cdot \chi_3 + 1 \cdot \chi_4 + 0 \cdot \chi_5 + 0 \cdot \chi_6 + 0 \cdot \chi_7 + 0 \cdot \chi_8 + 0 \cdot \chi_9 + 0 \cdot \chi_{10} + 0 \cdot \chi_{11} + 0 \cdot \chi_{12} + 2 \cdot \chi_{13} + 0 \cdot \chi_{14} + 0 \cdot \chi_{15} + 0 \cdot \chi_{16} + 0 \cdot \chi_{17} + 0 \cdot \chi_{18}}$	8 8	8 8	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0	0	0
$0 \cdot \chi_1 + 0 \cdot \chi_2 + 0 \cdot \chi_3 + 0 \cdot \chi_4 + 0 \cdot \chi_5 + 0 \cdot \chi_6 + 0 \cdot \chi_7 + 0 \cdot \chi_8 + 0 \cdot \chi_9 + 1 \cdot \chi_{10} + 0 \cdot \chi_{11} + 1 \cdot \chi_{12} + 0 \cdot \chi_{13} + 0 \cdot \chi_{14} + 0 \cdot \chi_{15} + 0 \cdot \chi_{16} + 1 \cdot \chi_{17} + 1 \cdot \chi_{18}$	8 -4	8 -4	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0	0	0
$\boxed{1 \cdot \chi_1 + 1 \cdot \chi_2 + 1 \cdot \chi_3 + 1 \cdot \chi_4 + 1 \cdot \chi_5 + 1 \cdot \chi_6 + 1 \cdot \chi_7 + 1 \cdot \chi_8 + 0 \cdot \chi_9 + 0 \cdot \chi_{10} + 0 \cdot \chi_{11} + 0 \cdot \chi_{12} + 0 \cdot \chi_{13} + 0 \cdot \chi_{14} + 0 \cdot \chi_{15} + 0 \cdot \chi_{16} + 0 \cdot \chi_{17} + 0 \cdot \chi_{18}}$	8 8	0 0	8 8	0 0	0 0	0 0	0 0	0 0	0 0	0	0	0
$0 \cdot \chi_1 + 0 \cdot \chi_2 + 0 \cdot \chi_3 + 0 \cdot \chi_4 + 0 \cdot \chi_5 + 0 \cdot \chi_6 + 0 \cdot \chi_7 + 0 \cdot \chi_8 + 1 \cdot \chi_9 + 1 \cdot \chi_{10} + 1 \cdot \chi_{11} + 1 \cdot \chi_{12} + 0 \cdot \chi_{13} + 0 \cdot \chi_{14} + 0 \cdot \chi_{15} + 0 \cdot \chi_{16} + 0 \cdot \chi_{17} + 0 \cdot \chi_{18}$	8 -4	0 0	8 -4	0 0	0 0	0 0	0 0	0 0	0 0	0	0	0
$1 \cdot \chi_1 + 1 \cdot \chi_2 + 1 \cdot \chi_3 + 1 \cdot \chi_4 + 0 \cdot \chi_5 + 0 \cdot \chi_6 + 0 \cdot \chi_7 + 0 \cdot \chi_8 + 0 \cdot \chi_9 + 0 \cdot \chi_{10} + 0 \cdot \chi_{11} + 0 \cdot \chi_{12} + 0 \cdot \chi_{13} + 2 \cdot \chi_{14} + 0 \cdot \chi_{15} + 0 \cdot \chi_{16} + 0 \cdot \chi_{17} + 0 \cdot \chi_{18}$	8 8	0 0	0 0	8 8	0 0	0 0	0 0	0 0	0 0	0	0	0
$ \begin{vmatrix} 0 \cdot \chi_1 + 0 \cdot \chi_2 + 0 \cdot \chi_3 + 0 \cdot \chi_4 + 0 \cdot \chi_5 + 0 \cdot \chi_6 + 0 \cdot \chi_7 + 0 \cdot \chi_8 + 0 \cdot \chi_9 + 1 \cdot \chi_{10} + 0 \cdot \chi_{11} + 1 \cdot \chi_{12} + 0 \cdot \chi_{13} + 0 \cdot \chi_{14} + 1 \cdot \chi_{15} + 1 \cdot \chi_{16} + 0 \cdot \chi_{17} + 0 \cdot \chi_{18} \end{vmatrix} $	8 -4	0 0	0 0	8 -4	0 0	0 0	0 0	0 0	0 0	0	0	0
$\boxed{1 \cdot \chi_1 + 1 \cdot \chi_2 + 1 \cdot \chi_3 + 1 \cdot \chi_4 + 0 \cdot \chi_5 + 0 \cdot \chi_6 + 0 \cdot \chi_7 + 0 \cdot \chi_8 + 0 \cdot \chi_9 + 0 \cdot \chi_{10} + 0 \cdot \chi_{11} + 0 \cdot \chi_{12} + 0 \cdot \chi_{13} + 0 \cdot \chi_{14} + 0 \cdot \chi_{15} + 0 \cdot \chi_{16} + 0 \cdot \chi_{17} + 0 \cdot \chi_{18}}$	4 4	4 4	4 4	4 4	4 4	0 0	0 0	0 0	0 0	0	0	0
$0 \cdot \chi_1 + 0 \cdot \chi_2 + 0 \cdot \chi_3 + 0 \cdot \chi_4 + 0 \cdot \chi_5 + 0 \cdot \chi_6 + 0 \cdot \chi_7 + 0 \cdot \chi_8 + 0 \cdot \chi_9 + 1 \cdot \chi_{10} + 0 \cdot \chi_{11} + 1 \cdot \chi_{12} + 0 \cdot \chi_{13} + 0 \cdot \chi_{14} + 0 \cdot \chi_{15} + 0 \cdot \chi_{16} + 0 \cdot \chi_{17} + 0 \cdot \chi_{18}$	4 -2	$\begin{vmatrix} 4 & -2 \end{vmatrix}$	4 -2	$\begin{vmatrix} 4 & -2 \end{vmatrix}$	4 -2	0 0	0  0	0 0	0 0	0	0	0
$\boxed{1 \cdot \chi_1 + 0 \cdot \chi_2 + 1 \cdot \chi_3 + 0 \cdot \chi_4 + 0 \cdot \chi_5 + 0 \cdot \chi_6 + 1 \cdot \chi_7 + 1 \cdot \chi_8 + 0 \cdot \chi_9 + 0 \cdot \chi_{10} + 0 \cdot \chi_{11} + 0 \cdot \chi_{12} + 0 \cdot \chi_{13} + 0 \cdot \chi_{14} + 0 \cdot \chi_{15} + 0 \cdot \chi_{16} + 0 \cdot \chi_{17} + 0 \cdot \chi_{18}}$	4 4	0 0	4 4	0 0	0 0	4 4	0 0	0 0	0 0	0	0	0
$ \begin{vmatrix} 0 \cdot \chi_1 + 0 \cdot \chi_2 + 0 \cdot \chi_3 + 0 \cdot \chi_4 + 0 \cdot \chi_5 + 0 \cdot \chi_6 + 0 \cdot \chi_7 + 0 \cdot \chi_8 + 0 \cdot \chi_9 + 0 \cdot \chi_{10} + 1 \cdot \chi_{11} + 1 \cdot \chi_{12} + 0 \cdot \chi_{13} + 0 \cdot \chi_{14} + 0 \cdot \chi_{15} + 0 \cdot \chi_{16} + 0 \cdot \chi_{17} + 0 \cdot \chi_{18} \end{vmatrix} $	4 -2	0 0	$\begin{vmatrix} 4 & -2 \end{vmatrix}$	0 0	0 0	$\begin{vmatrix} 4 & -2 \end{vmatrix}$	0 0	0 0	0 0	0	0	0
$1 \cdot \chi_1 + 0 \cdot \chi_2 + 1 \cdot \chi_3 + 0 \cdot \chi_4 + 1 \cdot \chi_5 + 1 \cdot \chi_6 + 0 \cdot \chi_7 + 0 \cdot \chi_8 + 0 \cdot \chi_9 + 0 \cdot \chi_{10} + 0 \cdot \chi_{11} + 0 \cdot \chi_{12} + 0 \cdot \chi_{13} + 0 \cdot \chi_{14} + 0 \cdot \chi_{15} + 0 \cdot \chi_{16} + 0 \cdot \chi_{17} + 0 \cdot \chi_{18}$	4 4	0 0	4 4	0 0	0 0	0 0	4 4	0 0	0 0	0	0	0
$ \begin{vmatrix} 0 \cdot \chi_1 + 0 \cdot \chi_2 + 0 \cdot \chi_3 + 0 \cdot \chi_4 + 0 \cdot \chi_5 + 0 \cdot \chi_6 + 0 \cdot \chi_7 + 0 \cdot \chi_8 + 1 \cdot \chi_9 + 0 \cdot \chi_{10} + 0 \cdot \chi_{11} + 1 \cdot \chi_{12} + 0 \cdot \chi_{13} + 0 \cdot \chi_{14} + 0 \cdot \chi_{15} + 0 \cdot \chi_{16} + 0 \cdot \chi_{17} + 0 \cdot \chi_{18} \end{vmatrix} $	4 -2	0 0	4 -2	0 0	0 0	0 0	4 -2	0 0	0 0	0	0	0
$1 \cdot \chi_1 + 0 \cdot \chi_2 + 0 \cdot \chi_3 + 1 \cdot \chi_4 + 0 \cdot \chi_5 + 0 \cdot \chi_6 + 0 \cdot \chi_7 + 0 \cdot \chi_8 + 0 \cdot \chi_9 + 0 \cdot \chi_{10} + 0 \cdot \chi_{11} + 0 \cdot \chi_{12} + 1 \cdot \chi_{13} + 0 \cdot \chi_{14} + 0 \cdot \chi_{15} + 0 \cdot \chi_{16} + 0 \cdot \chi_{17} + 0 \cdot \chi_{18}$	4 4	4 4	0 0	0 0	0 0	0 0	0 0	2 0	0 0	0	0	0
$1 \cdot \chi_1 + 1 \cdot \chi_2 + 0 \cdot \chi_3 + 0 \cdot \chi_4 + 0 \cdot \chi_5 + 0 \cdot \chi_6 + 0 \cdot \chi_7 + 0 \cdot \chi_8 + 0 \cdot \chi_9 + 0 \cdot \chi_{10} + 0 \cdot \chi_{11} + 0 \cdot \chi_{12} + 1 \cdot \chi_{13} + 0 \cdot \chi_{14} + 0 \cdot \chi_{15} + 0 \cdot \chi_{16} + 0 \cdot \chi_{17} + 0 \cdot \chi_{18}$	4 4	4 4	0 0	0 0	0 0	0 0	0 0	0 2	0 0	0	0	0
$1 \cdot \chi_1 + 0 \cdot \chi_2 + 1 \cdot \chi_3 + 0 \cdot \chi_4 + 0 \cdot \chi_5 + 0 \cdot \chi_6 + 0 \cdot \chi_7 + 0 \cdot \chi_8 + 0 \cdot \chi_9 + 0 \cdot \chi_{10} + 0 \cdot \chi_{11} + 0 \cdot \chi_{12} + 0 \cdot \chi_{13} + 0 \cdot \chi_{14} + 0 \cdot \chi_{15} + 0 \cdot \chi_{16} + 0 \cdot \chi_{17} + 0 \cdot \chi_{18}$	2 2	2 2	2 2	2 2	2 2	2 2	2 2	0 0	2 2	0	0	0
$0 \cdot \chi_1 + 0 \cdot \chi_2 + 0 \cdot \chi_3 + 0 \cdot \chi_4 + 0 \cdot \chi_5 + 0 \cdot \chi_6 + 0 \cdot \chi_7 + 0 \cdot \chi_8 + 0 \cdot \chi_9 + 0 \cdot \chi_{10} + 0 \cdot \chi_{11} + 1 \cdot \chi_{12} + 0 \cdot \chi_{13} + 0 \cdot \chi_{14} + 0 \cdot \chi_{15} + 0 \cdot \chi_{16} + 0 \cdot \chi_{17} + 0 \cdot \chi_{18}$	2 -1	$\begin{vmatrix} 2 & -1 \end{vmatrix}$	0 0	$\begin{vmatrix} 2 & -1 \end{vmatrix}$	. 0	0	0					
$1 \cdot \chi_1 + 0 \cdot \chi_2 + 0 \cdot \chi_3 + 1 \cdot \chi_4 + 0 \cdot \chi_5 + 0 \cdot \chi_6 + 0 \cdot \chi_7 + 0 \cdot \chi_8 + 0 \cdot \chi_9 + 0 \cdot \chi_{10} + 0 \cdot \chi_{11} + 0 \cdot \chi_{12} + 0 \cdot \chi_{13} + 0 \cdot \chi_{14} + 0 \cdot \chi_{15} + 0 \cdot \chi_{16} + 0 \cdot \chi_{17} + 0 \cdot \chi_{18}$	2 2	2 2	2 2	2 2	2 2	0 0	0 0	2 0	0 0	2	0	0
$1 \cdot \chi_1 + 1 \cdot \chi_2 + 0 \cdot \chi_3 + 0 \cdot \chi_4 + 0 \cdot \chi_5 + 0 \cdot \chi_6 + 0 \cdot \chi_7 + 0 \cdot \chi_8 + 0 \cdot \chi_9 + 0 \cdot \chi_{10} + 0 \cdot \chi_{11} + 0 \cdot \chi_{12} + 0 \cdot \chi_{13} + 0 \cdot \chi_{14} + 0 \cdot \chi_{15} + 0 \cdot \chi_{16} + 0 \cdot \chi_{17} + 0 \cdot \chi_{18}$	2 2	2 2	2 2	2 2	2 2	0 0	0 0	0 2	0 0	0	2	0
$1 \cdot \chi_1 + 0 \cdot \chi_2 + 0 \cdot \chi_3 + 0 \cdot \chi_4 + 0 \cdot \chi_5 + 0 \cdot \chi_6 + 0 \cdot \chi_7 + 0 \cdot \chi_8 + 0 \cdot \chi_9 + 0 \cdot \chi_{10} + 0 \cdot \chi_{11} + 0 \cdot \chi_{12} + 0 \cdot \chi_{13} + 0 \cdot \chi_{14} + 0 \cdot \chi_{15} + 0 \cdot \chi_{16} + 0 \cdot \chi_{17} + 0 \cdot \chi_{18}$	1 1	1 1	1 1	1 1	1 1	1 1	1 1	1 1	1 1	1	1	1

## $P_1 = Group([()]) \cong 1$

- $P_2 = Group([(1,4)(2,8)(3,11)(5,14)(6,15)(7,18)(9,21)(10,22)(12,25)(13,26)(16,29)(17,30)(19,32)(20,33)(23,36)(24,37)(27,39)(28,40)(31,42)(34,43)(35,44)(38,46)(41,47)(45,48)]) \cong \mathbb{C}_2$
- $P_3 = Group([(1,5)(2,9)(3,12)(4,14)(6,16)(7,19)(8,21)(10,23)(11,25)(13,27)(15,29)(17,31)(18,32)(20,34)(22,36)(24,38)(26,39)(28,41)(30,42)(33,43)(35,45)(37,46)(40,47)(44,48)]) \cong C2$
- $P_4 = Group([(1,14)(2,21)(3,25)(4,5)(6,29)(7,32)(8,9)(10,36)(11,12)(13,39)(15,16)(17,42)(18,19)(20,43)(22,23)(24,46)(26,27)(28,47)(30,31)(33,34)(35,48)(37,38)(40,41)(44,45)]) \cong \mathbb{C}_2$

- $P_9 = Group([(1,19,4,32)(2,25,8,12)(3,9,11,21)(5,7,14,18)(6,45,15,48)(10,47,22,41)(13,38,26,46)(16,35,29,44)(17,34,30,43)(20,42,33,31)(23,40,36,28)(24,37,27),(1,4)(2,8)(3,11)(5,7,14,18)(6,45,15,48)(10,47,22,41)(13,38,26,46)(16,35,29,44)(17,34,30,43)(20,42,33,31)(23,40,36,28)(24,37,27),(1,4)(2,8)(3,11)(5,7,14,18)(6,45,15,48)(10,47,22,41)(13,38,26,46)(16,35,29,44)(17,34,30,43)(20,42,33,31)(23,40,36,28)(24,37,27),(1,4)(2,8)(3,11)(5,7,14,18)(6,45,15,48)(10,47,22,41)(13,38,26,46)(16,35,29,44)(17,34,30,43)(20,42,33,31)(23,40,36,28)(24,37,27),(1,4)(2,8)(3,11)(5,14)(6,15)(7,18)(7,18)(7,18)(7,1$
- $P_{10} = Group([(1,5)(2,9)(3,12)(4,14)(6,16)(7,19)(8,21)(10,23)(11,25)(13,26)(14,34)(35,44)(36,46)(41,47)(45,48), (1,3,5,12)(2,3,34)(15,26,29,39)(17,28,31,41)(22,33,36,43)(24,37)(27,39)(28,41)(30,42)(33,43)(35,45)(37,46)(40,47)(44,48), (1,3,5,12)(2,7,9,19)(4,11,14,25)(6,13,16,27)(8,18,21,32)(10,22,33,36,43)(24,37)(27,39)(28,41)(30,42)(33,43)(35,45)(37,46)(40,47)(44,48), (1,3,5,12)(2,7,9,19)(4,11,14,25)(6,13,16,27)(17,29)(17$
- $P_{11} = Group([(1,5)(2,9)(3,12)(4,14)(6,16)(7,19)(8,21)(10,23)(11,25)(13,27)(15,29)(17,31)(18,32)(20,34)(23,36)(24,37)(27,39)(28,41)(30,42)(33,43)(35,44)(38,46)(41,47)(45,48), (1,2,4,8)(3,11)(5,14)(6,15)(7,18)(9,21)(10,22)(12,25)(13,26)(16,29)(17,31)(18,32)(20,34)(28,34)(35,44)(38,46)(41,47)(45,48), (1,2,4,8)(3,11)(5,14)(6,15)(7,18)(9,21)(10,22)(12,25)(13,26)(16,29)(17,31)(18,32)(20,34)(28,34)(35,44)(38,46)(41,47)(45,48), (1,2,4,8)(3,11)(5,14)(6,15)(7,18)(9,21)(10,22)(12,25)(13,26)(16,29)(17,31)(18,32)(20,34)(28,34)(35,44)(38,46)(41,47)(45,48), (1,2,4,8)(3,11)(5,14)(6,15)(7,18)(9,21)(10,22)(12,25)(13,26)(16,29)(17,31)(18,32)(20,33)(23,36)(24,37)(27,39)(28,41)(30,42)(33,43)(35,44)(38,46)(41,47)(45,48), (1,2,4,8)(31,42)(33,43)(35,44)(38,46)(41,47)(45,48), (1,2,4,8)(31,42)(33,43)(35,44)(38,46)(41,47)(45,48), (1,2,4,8)(31,42)(33,43)(35,44)(38,46)(41,47)(45,48), (1,2,4,8)(31,42)(33,43)(35,44)(38,46)(41,47)(45,48), (1,2,4,8)(31,42)(33,43)(35,44)(38,46)(41,47)(45,48), (1,2,4,8)(31,42)(41,42)(41,43)($
- $P_{12} = Group((1,5)(2,9)(3,12)(4,14)(6,16)(7,19)(8,21)(10,23)(11,25)(13,26)(24,38)(25,34)(23,43)(25,45)(24,38)(26,39)(28,41)(30,42)(33,43)(35,45)(24,38)(26,39)(28,41)(30,42)(33,43)(35,45)(24,38)(26,39)(28,41)(30,42)(33,43)(35,45)(37,46)(40,47)(45,48), \\ P_{12} = Group((1,5)(2,9)(3,12)(4,14)(6,16)(7,19)(8,21)(10,23)(11,25)(13,26)(16,29)(17,31)(18,32)(20,34)(22,36)(24,38)(26,39)(28,41)(30,42)(33,43)(35,45)(37,46)(40,47)(45,48), \\ P_{13} = Group((1,5)(2,9)(3,12)(4,14)(6,16)(7,19)(8,21)(10,23)(11,25)(13,26)(16,29)(17,31)(18,32)(20,33)(23,36)(24,37)(27,39)(28,41)(30,42)(33,43)(35,45)(37,46)(40,47)(45,48), \\ P_{13} = Group((1,5)(2,9)(3,12)(4,14)(6,16)(7,19)(8,21)(10,23)(11,25)(13,27)(15,29)(17,31)(18,32)(20,33)(23,36)(24,37)(27,39)(28,41)(30,42)(33,43)(35,45)(37,46)(40,47)(44,48), \\ P_{14} = Group((1,5)(2,9)(3,12)(4,14)(6,16)(17,12)(13,27)(15,29)(17,31)(18,32)(20,33)(23,43)($
- $P_{13} = Group([(1,5)(2,9)(3,12)(4,14)(6,15)(7,18)(9,21)(10,23)(13,42)(34,43)(35,44)(34,44)$

 $N_2 = Group([1,2,4,8)(3,4,3)(2,3,3,4)$ 

 $C12 \times C32 \times C32$ 

 $|\chi_2|$  1 -1 -1 1 1 1 -1 -1

 $\chi_6 \mid 1 \quad E(4) \quad -1 \quad -1 \quad 1 \quad 1 \quad -E(4) \quad -E(4) \quad 1$ 

 $|\chi_8|$  1 E(4) 1 -1 1 E(4) -E(4) -1

 $|\chi_{10}|$  2 0 -2 2 2 -1 0 0 -2

 $|\chi_{11}| 2 0 2 -2 2 -1 0 0 -2$ 

 $|\chi_9|$  2 0 -2 -2 2 -1 0 0 2

 $|\chi_3|$  1 -1 1 1 1 -1 -1 1

1 1 1 1

 $1 \quad 1 \quad 1 \quad -1$  $1 \quad 1 \quad 1 \quad -1$ 

 $-1 \quad -1 \quad 1 \quad -E(4)$ 

 $-1 \quad -1 \quad 1 \quad E(4)$ 

 $-1 \quad -1 \quad 1 \quad E(4)$ 

 $-1 \quad -1 \quad 1 \quad -E(4)$ 

-2 1 -1 0

 $2 \quad -1 \quad -1 \quad 0$ 

 $-2 \quad 1 \quad -1 \quad 0$ 

 $\begin{vmatrix} \chi_{15} \end{vmatrix} = 2 \quad 0 \quad 0 \quad -2 \quad -2 \quad -1 \quad 0 \quad 0 \quad 0 \quad -E(12)^7 + E(12)^{11} \quad 2 \quad 1 \quad 1 \quad 0 \quad E(12)^7 - E(12)^{11} \quad E(12)^7 - E(12)^{11} \quad -1 \quad -E(12)^7 + E(12)^{11} \quad 2 \quad 1 \quad 1 \quad 0 \quad E(12)^7 - E(12)^{11} \quad E(12)^7 - E(12)^{11} \quad -1 \quad -E(12)^7 + E(12)^7 + E(12)$  $\begin{bmatrix} \chi_{17} \end{bmatrix} = 0 \quad 0 \quad 2 \quad -2 \quad -1 \quad 0 \quad 0 \quad 0 \quad -E(12)^7 + E(12)^{11} \quad -2 \quad -1 \quad 1 \quad 0 \quad -E(12)^7 + E(12)^{11} \quad E(12)^7 - E(12)^{11} \quad 1 \quad E(12)^7 - E(12)^{11}$ 

 $N_6 = Group([(1,3,5,12)(2,7,9,19)(4,11,14,25)(6,13,16,27)(15,29)(17,31)(18,32)(20,34)(22,36)(24,38,45)(30,40,42,47)(37,44,46,48), (1,5)(2,9)(3,12)(4,14)(6,16)(7,19)(8,21)(10,23,13)(12,33,34)(15,26,29,39)(17,28,31,41)(22,33,36,43)(24,35,38,45)(30,40,42,47)(37,44,46,48), (1,5)(2,9)(3,12)(4,14)(6,16)(7,19)(8,21)(10,23,13)(12,23,36,43)(24,35,38,45)(20,34)(22,36)(24,38,34)(24,35,38,45)(30,40,42,47)(37,44,46,48), (1,5)(2,9)(3,12)(4,14)(6,16)(7,19)(8,21)(10,23)(11,25)(13,27)(15,29)(17,31)(18,32)(20,34)(15,26,29,39)(17,28,31,41)(22,33,36,43)(24,35,38,45)(20,34)(22,36)(24,35,38,45)(20,34)(22,36)(24,35,38,45)(20,34)(22,36)(24,35,38,45)(20,34)(22,36)(24,35,38,45)(20,34)(22,36)(24,35,38,45)(20,34)(22,36)(24,35,38,45)(20,34)(22,36)(24,35,38,45)(20,34)(22,36)(24,35,38,45)(20,34)(22,36)(24,35,38,45)(20,34)(22,36)(24,35,38,45)(20,34)(22,36)(24,35,38,45)(20,34)(22,36)(24,35,38,45)(20,34)(22,36)(24,35,38,45)(20,34)(22,36)(24,35,38)(24,35,38)(24,35,38)(24,35,36,45)(24,35,36)(24,36,36)(24,35,36)(24,36,36)(24,$ 

 $N_7 = Group([(1,11,5,25)(2,18,9,32)(3,14,12,4)(6,26,16,39)(7,21,19,8)(10,33,23,43)(13,29,27,15)(17,40,31,47)(20,36,34,22)(24,44,38,48)(28,42,41,30)(35,46,45,37)(7,25,18,12)(10,30,42)(33,43)(35,45)(37,46)(40,47)(44,48), \\ (1,2,4,8)(3,14,12,4)(6,26,16,34)(2,34,36,31)(27,35,39,44)(28,34,40,12,43,48)(28,34,43,43,48)(28,34,43,48)(28,34,43,48)(28,34,43,48)(28,34,43,48)(28,34,43$  $N_8 = Group([(1,2,4,8)(3,19,11,32)(5,9,14,21)(6,24,15,37)(7,25,18,12)(10,30,22,17)(13,45,26,48)(16,38,29,46)(20,37)(27,39,42)(28,34,40,43)(35,44)(38,46)(41,47)(45,48)(10,30,22,17)(13,45,26,48)(16,38,29,46)(20,34,36)(24,37)(27,39,42)(28,34)(38,46)(41,47)(45,48)(10,30,22,17)(13,45,26,48)(16,38,29,46)(20,34,36)(24,37)(27,39,48)(28,34,40,43)(35,44)(38,46)(41,47)(45,48)(10,30,22,17)(13,45,26,48)(16,38,29,46)(20,34,36)(24,37)(27,39,48)(26,39)(28,41)(30,42)(33,43)(35,44)(38,46)(41,47)(45,48)(10,30,22,17)(13,45,26,48)(16,38,29,46)(20,34,36)(24,37)(27,39,48)(28,34,40,43)(35,44)(38,46)(41,47)(45,48)(37,46)(49,47)(47,48)(37,46)(49,47)(47,48)(37,48)(47,48$ 

 $N_9 = Group([(1,19,4,32)(2,25,8,12)(3,9,11,21)(5,7,14,18)(6,45,15,48)(10,47,22,41)(13,38,26,46)(16,29)(17,30)(19,32)(20,33)(23,36)(24,37)(27,39)(28,41)(30,42)(33,43)(35,44)(38,46)(41,47)(45,48)(10,47,22,41)(13,38,26,46)(16,29)(17,30)(19,32)(20,33)(23,36)(24,37)(27,39)(28,41)(30,42)(33,43)(35,44)(38,46)(41,47)(45,48)(10,47)(44,48)] \\ \cong C_4 \times C_2(3,3,31)(23,40,36,28)(24,37,37)(27,39)(28,41)(37,46)(47,47)(47,48)(37,47)(47,48)($ (2, 3, 3, 4, 1, 2, 3, 3, 4, 1, 2, 3, 3, 4, 1, 2, 3, 3, 4, 1, 2, 3, 3, 4, 1, 2, 3, 3, 4, 1, 2, 3, 3, 4, 1, 2, 3, 3, 4, 1, 2, 3, 3, 4, 3, 2, 3, 4, 3, 4, 3,

 $N_{11} = Group([(1,2,4,8)(3,19,11,32)(5,9,14,21)(6,24,15,37)(7,25,18,12)(10,20)(13,24)(13,2$  $N_{12} = Group([(1,19,4,32)(2,25,8,12)(3,9,11,21)(5,7,14,18)(6,45,15,48)(10,47,22,41)(13,38,26,46)(16,35,29,44)(17,34,30,42)(23,40,36,28)(24,39,37,27), \\ (1,4)(2,36)(24,39)(23,40)(33,43)(23,40,36,29)(24,39)(24,$