Supplemental material: Visual Algebra (Math 4120), HW 4

#1: Cayley table of a quotient of the *abelian group* $C_8 \times C_2$.

	± 1	$\pm a$	$\pm b$	$\pm c$	$\pm w$	$\pm x$	$\pm y$	$\pm z$
± 1								
$\pm a$								
$\pm b$								
$\pm c$								
$\pm w$								
$\pm x$								
$\pm y$								
$\pm z$								

#**1**: Cayley table of a quotient of the *dihedral group* D_8.

	± 1	$\pm a$	$\pm b$	$\pm c$	$\pm w$	$\pm x$	$\pm y$	$\pm z$
± 1								
$\pm a$								
$\pm b$								
$\pm c$								
$\pm w$								
$\pm x$								
$\pm y$								
$\pm z$								

#**1**: Cayley table of a quotient of the *semiabelian group* SA_8.

	± 1	$\pm a$	$\pm b$	$\pm c$	$\pm w$	$\pm x$	$\pm y$	$\pm z$
± 1								
$\pm a$								
$\pm b$								
$\pm c$								
$\pm w$								
$\pm x$								
$\pm y$								
$\pm z$								

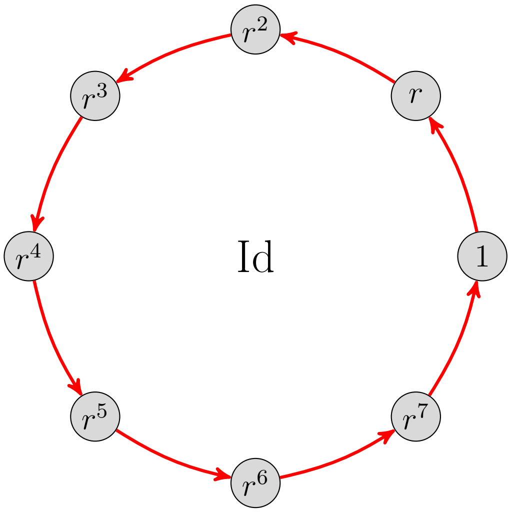
#**1**: Cayley table of a quotient of the *semidihedral group* SD_8.

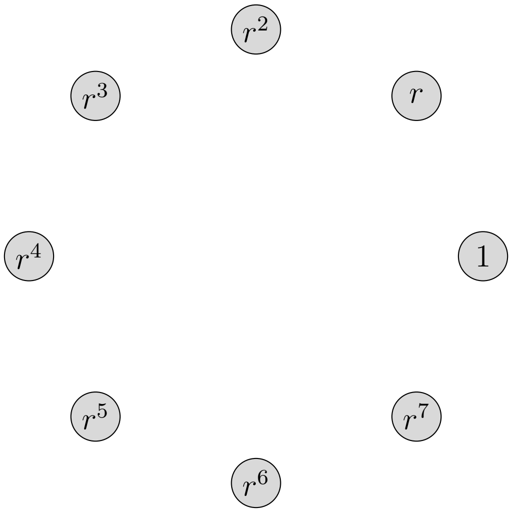
	± 1	$\pm a$	$\pm b$	$\pm c$	$\pm w$	$\pm x$	$\pm y$	$\pm z$
± 1								
$\pm a$								
$\pm b$								
$\pm c$								
$\pm w$								
$\pm x$								
$\pm y$								
$\pm z$								

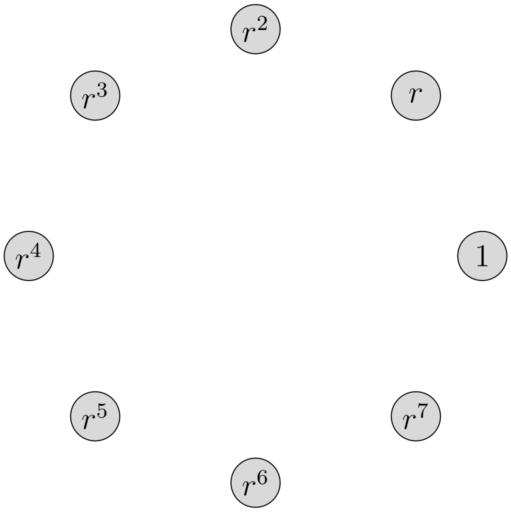
#**2**: Cayley table of a quotient of the *diquaternion group* DQ_8.

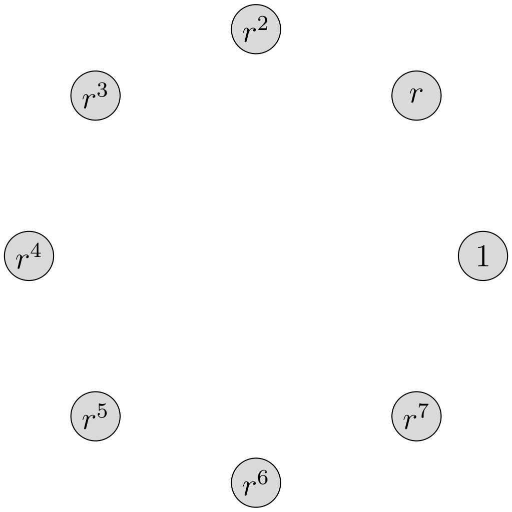
	± 1	$\pm a$	$\pm b$	$\pm c$	$\pm w$	$\pm x$	$\pm y$	$\pm z$
± 1								
$\pm a$								
$\pm b$								
$\pm c$								
$\pm w$								
$\pm x$								
$\pm y$								
$\pm z$								

#4(a): Cayley graph of Aut(C_8), the *automorphism group* of C_8, which is isomorphic to $U_8 = \{1, 3, 5, 7\}$, the multiplitive group of integers modulo 8. The nodes are labeled by rewirings (automorphisms) of the Cayley diagram.

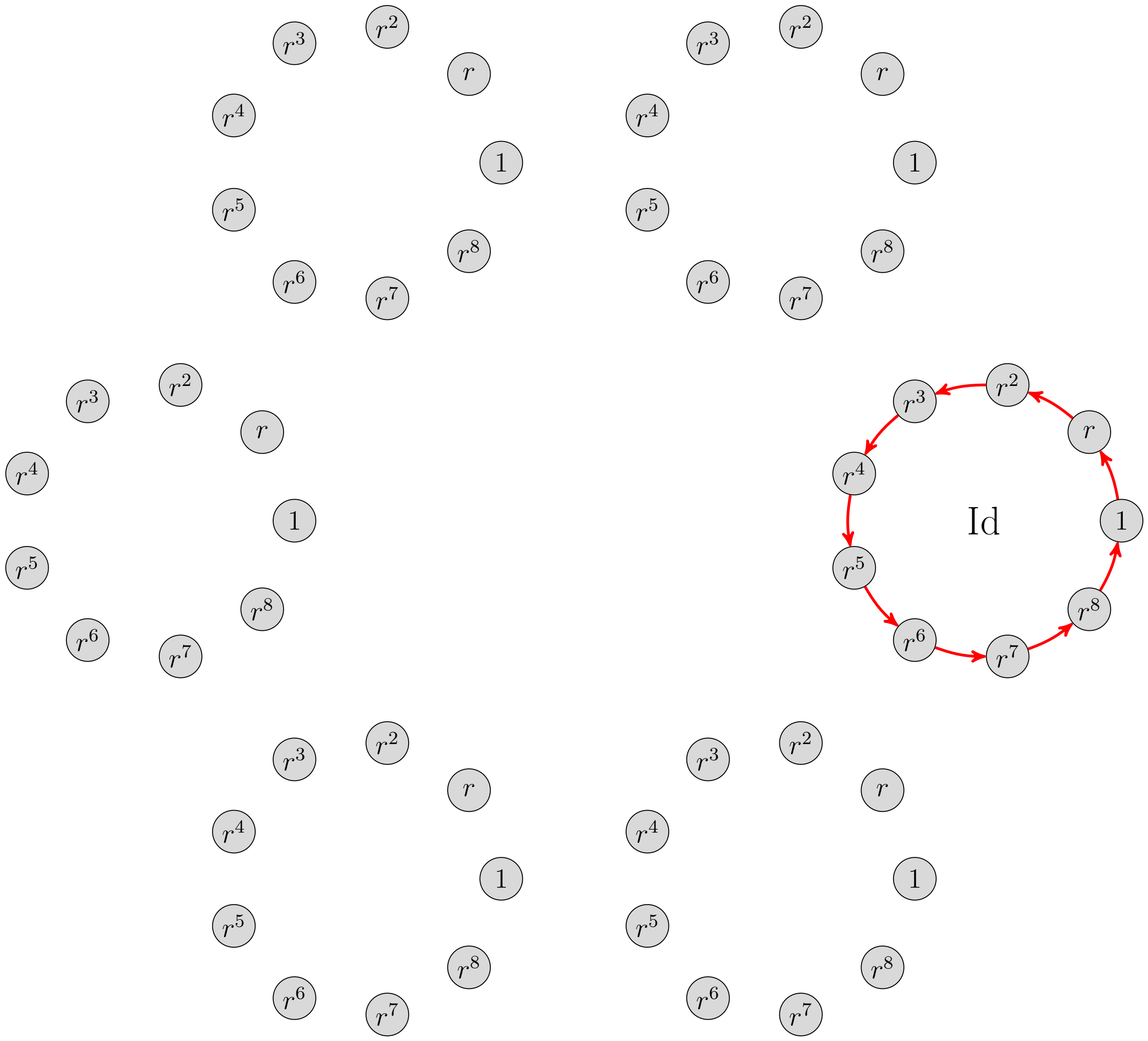




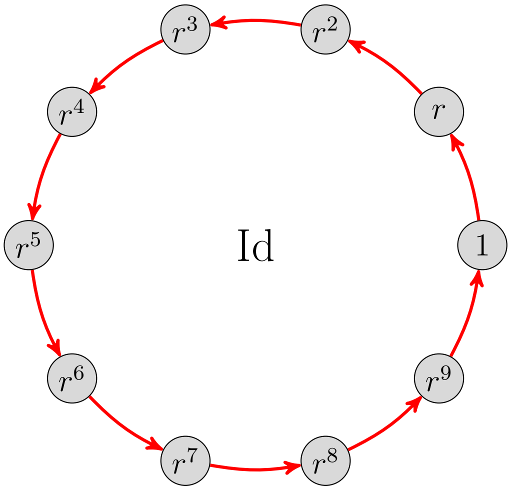


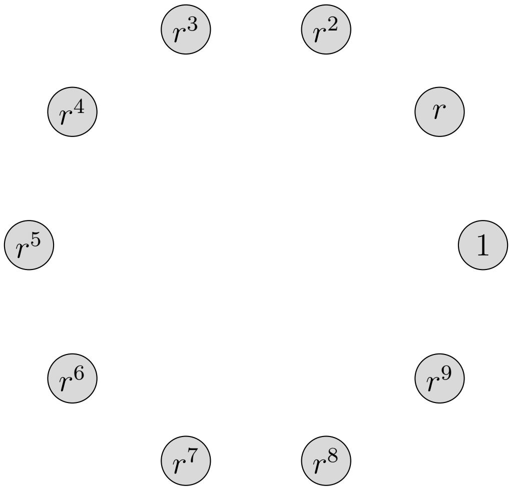


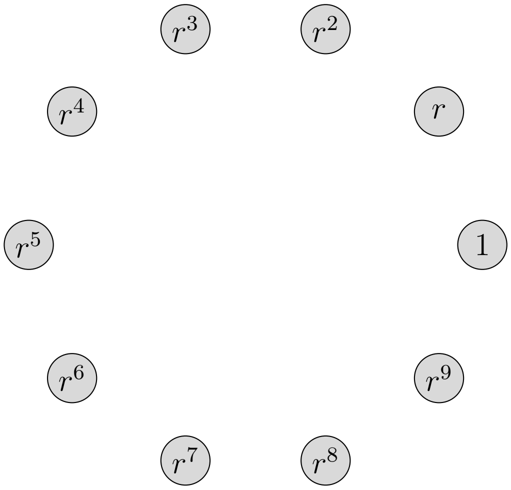
#4(b): Cayley graph of Aut(C_9), the *automorphism group* of C_9, which is isomorphic to $U_9 = \{1, 2, 4, 5, 7, 8\}$, the multiplitive group of integers modulo 9. The nodes are labeled by rewirings (automorphisms) of the Cayley diagram.

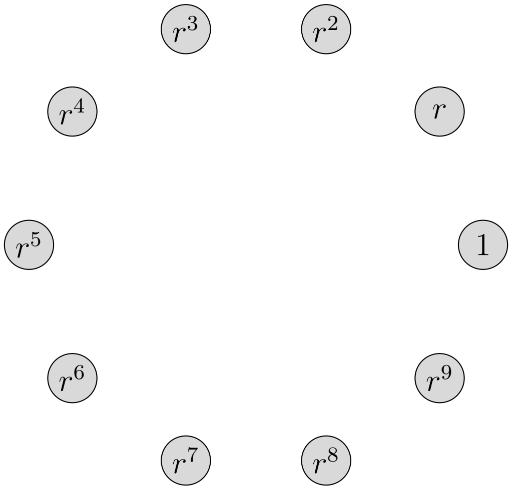


#4(c): Cayley graph of Aut(C_{10}), the *automorphism group* of C_{10}, which is isomorphic to $U_9 = \{1, 3, 7, 9\}$, the multiplitive group of integers modulo 10. The nodes are labeled by rewirings (automorphisms) of the Cayley diagram.









#4(d): Cayley graph of $\mathrm{Aut}(C_{16})$, the automorphism group of C_{16}.