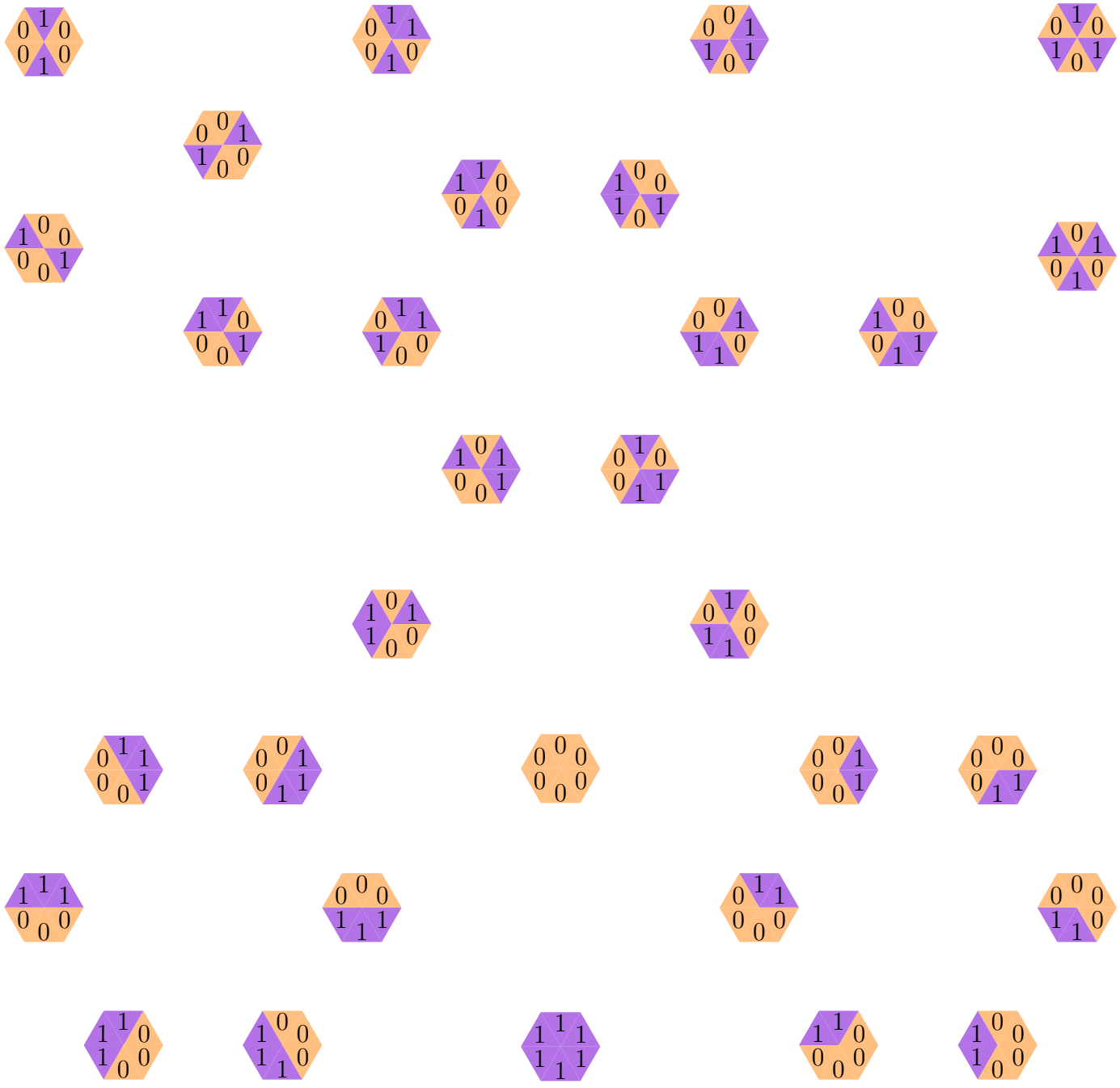
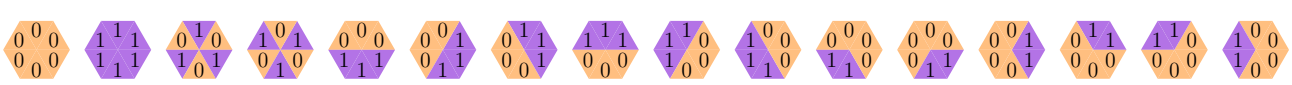
Supplemental material: Visual Algebra (Math 4120), HW 10

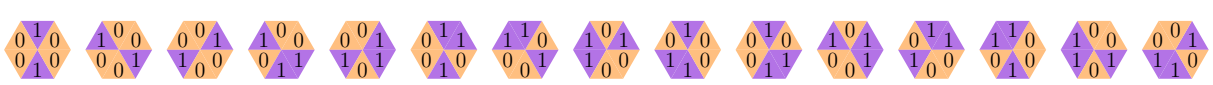
#1(a,c): Action graph of $D_6 = \langle r, f \rangle$ acting on 31 "binary hexagons."



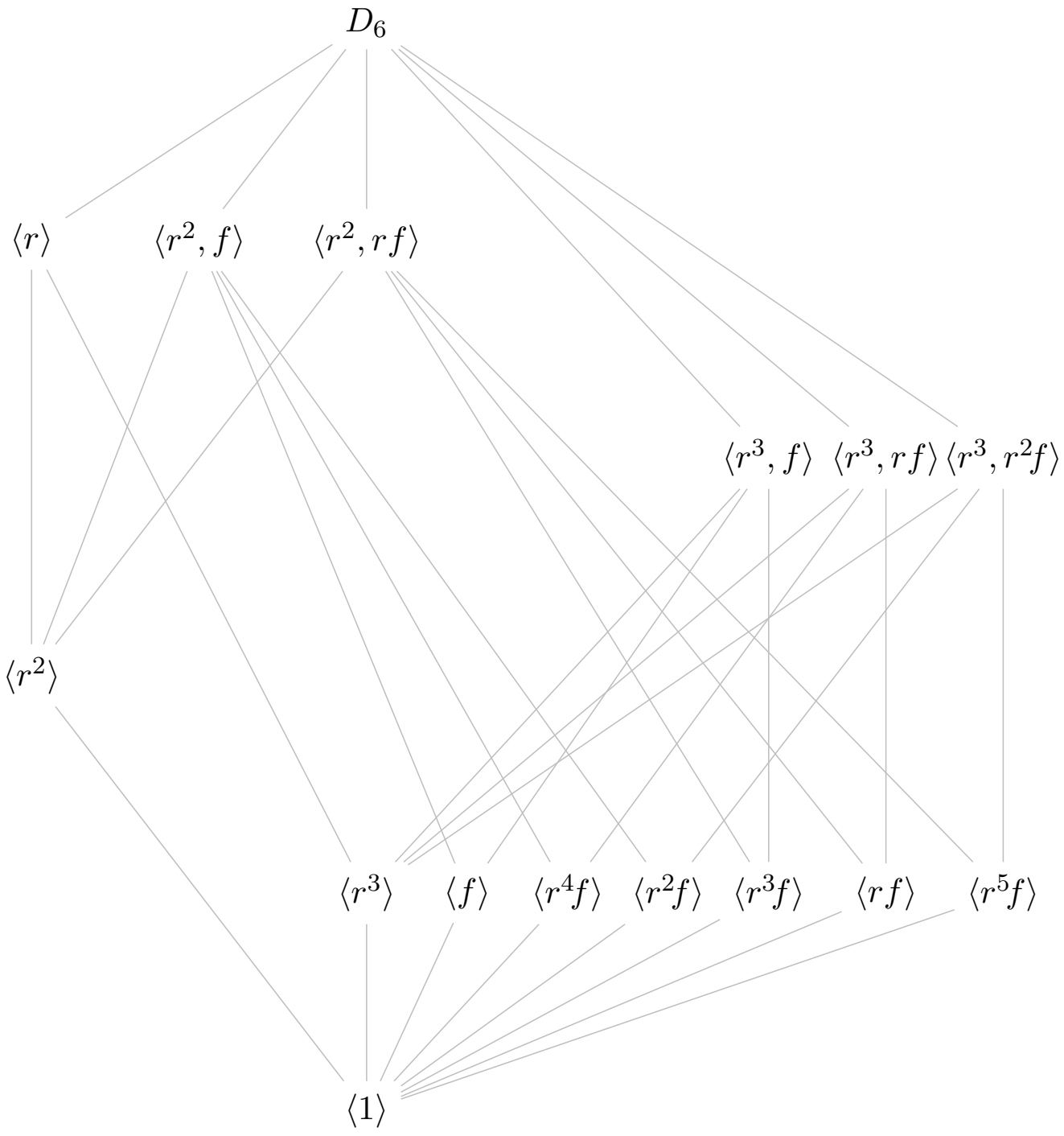
#1(b): Fixed point table of D_6 acting on "binary hexagons."

	
1	
r	
r^2	
r^3	
r^4	
r^5	
f	
rf	
r^2f	
r^3f	
r^4f	
r^5f	

#1(b): Fixed point table of D_6 acting on "binary hexagons" (contin.)

	
1	
r	
r^2	
r^3	
r^4	
r^5	
f	
rf	
r^2f	
r^3f	
r^4f	
r^5f	

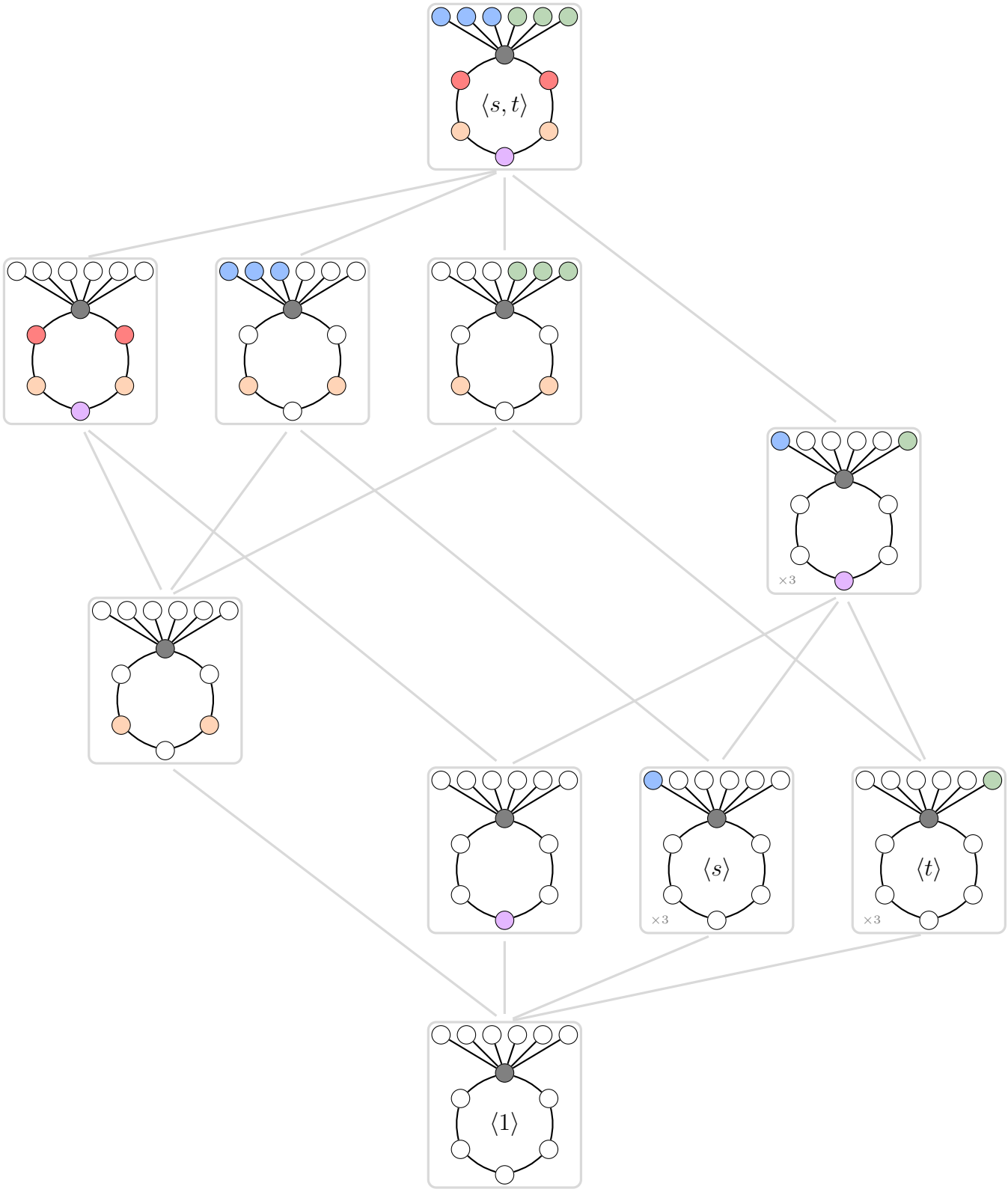
#4(a): Action graph of $D_6 = \langle r, f \rangle$ acting on its subgroups by conjugation.



#4(b): Fixed point table of D_6 acting on its subgroups by conjugation.

	D_6	$\langle r \rangle$	$\langle r^2, f \rangle$	$\langle r^2, rf \rangle$	$\langle r^3, f \rangle$	$\langle r^3, rf \rangle$	$\langle r^3, r^2 f \rangle$	$\langle r^2 \rangle$	$\langle r^3 \rangle$	$\langle f \rangle$	$\langle r^2 f \rangle$	$\langle r^4 f \rangle$	$\langle rf \rangle$	$\langle r^3 f \rangle$	$\langle r^5 f \rangle$
1															
r															
r^2															
r^3															
r^4															
r^5															
f															
rf															
$r^2 f$															
$r^3 f$															
$r^4 f$															
$r^5 f$															

#**5**: The subgroup diagram of $D_6 = \langle s, t \rangle$, where $s = f$ and $t = fr$. Each conjugacy class is labeled with a subgroup that contains it.



#5: The G-set poset of $D_6 = \langle s, t \rangle$, where $s = f$ and $t = fr$, constructed by collapsing its Cayley graph by right cosets of its subgroups.