cheat sheet `fingroup.v` (SSReflect v1.5)

`ssrfun.v` naming conventions	
K	cancel
LR	move an op from the lhs of a rel to the rhs
RL	move an op from the rhs to the lhs

ssrfun.v definitions	
injective f	forall x1 x2, f x1 = f x2 -> x1 = x2
cancel f g	g (f x) = x
involutive f	cancel f f
left_injective op	injective (op^~ x)
right_injective op	injective (op y)
left_id e op	op e x = x
right_id e op	op x e = x
left_zero z op	op z x = z
right_commutative op	op (op x y) z = op (op x z) y
right_zero z op	op x z = z
left_commutative op	op x (op y z) = op y (op x z)
left_distributive op add	op (add x y) z = add (op x z) (op y z)
right_distributive op add	op x (add y z) = add (op x y) (op x z)
left_loop inv op	cancel (op x) (op (inv x))
self_inverse e op	op x x = e
commutative op	op x y = op y x
idempotent op	op x x = x
associative op	op x (op y z) = op (op x y) z

`ssrbool.v` naming conventions	
A	associativity
AC	right commutativity
b	a boolean argument
C	commutativity/complement
D	predicate difference
E	elimination
F/f	boolean false
T/t	boolean truth
U	predicate union

`fingroup.v` naming conventions	
M	multiplication
V	inverse

group_scope

<table>
<tr><td>1</td><td>oneg</td><td>1</td></tr>
<tr><td>x * y</td><td>mulg</td><td>$x.y$</td></tr>
<tr><td>x^-1</td><td>invg</td><td>x^{-1}</td></tr>
<tr><td>x ^ y</td><td>conjg</td><td>$y^{-1}xy$</td></tr>
<tr><td>A :^ x</td><td>conjugate A x (conjg^~ x @: A)</td><td>A^x</td></tr>
<tr><td>'N(A)</td><td>normaliser A ([set x |A :^ x \subset A])</td><td>$N(A)$</td></tr>
<tr><td>A <| B</td><td>normal A B ((A \subset B) && (B \subset 'N(A)))</td><td>$A \trianglelefteq B$</td></tr>
<tr><td></td><td>normalised A (forall x, A :^ x =A)</td><td></td></tr>
<tr><td><< A >></td><td>generated A (\bigcap_(G : groupT |A \subset G) G)</td><td>$\langle A \rangle$</td></tr>
</table>

bool_scope

a \in A	see `ssrbool.v`	$a \in A$
A \subset B	see `fintype.v`	$A \subseteq B$

Section PreGroupIdentities

mulgA	associative mulgT (NB: $x(yz) \to xyz$)
mul1g/mulg1	left_id 1 mulgT/right_id 1 mulgT
invgK	@involutive T invg
invMg	(x * y)^-1 = y^-1 * x^-1
mulVg/mulgV	left_inverse 1 invg mulgT/right_inverse 1 invg mulgT
mulKg	left_loop invg mulgT
mulIg	left_injective mulgT
conjgC	x * y = y * x ^ y
conjg1	x ^ 1 =x
conj1g	1 ^ x =1
conjMg	(x * y) ^ z =x ^ z *y ^ z
mem_conjg	(y \in A :^ x) =(y ^ x^-1 \in A)
sub_conjgV	(A :^ x^-1 \subset B) =(A \subset B :^ x)
group1	1 \in G

Membership lemmas

groupM	x \in G -> y \in G -> x * y \in G
groupVr	x \in G -> x^-1 \in G
groupVl	x^-1 \in G -> x \in G
mulSGid	H \subset G -> H * G = G
mulGSid	H \subset G -> G * H = G