+	Mo	Tu	We	Th	Fr	Sa	Su
Mo	Sa	Su	Mo	Tu	We	Th	Fr
Tu	Su	Mo	Tu	We			
We	Mo	Tu	We	...			
Th	Tu	We					
Fr	We						
Sa							
Su							

Mo – Fr
Tu – Th
We – We
Su – Sa

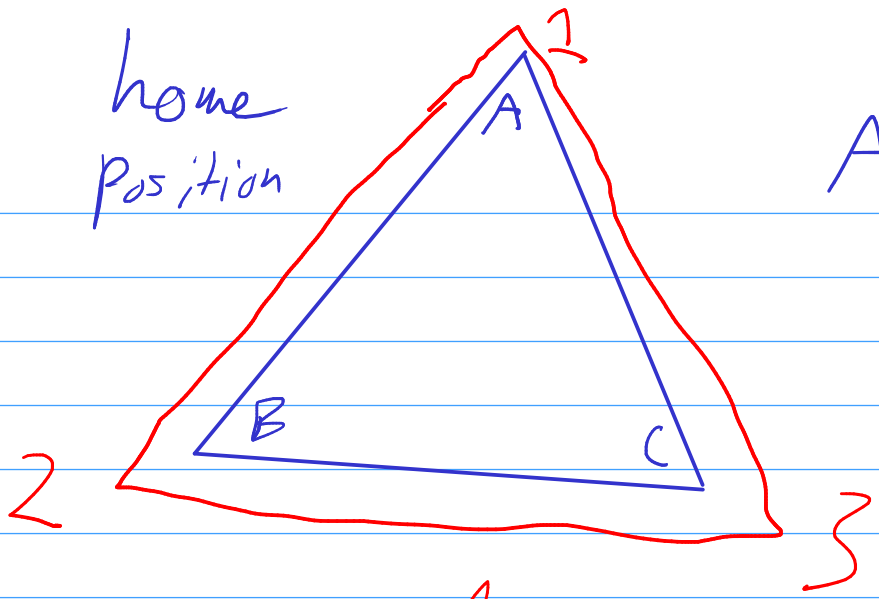
Mo Su Th Tu Su Fr We

·	Mo	Tu	We	Th	Fr	Sa	Su
Mo	Su	Fr	We	Mo	Sa	Th	Tu
Tu	Fr	Th	We	Tu	Mo	Su	Sa
We	We	We	We	We	We	We	We
Th	Mo	Tu	We	Th	Fr	Sa	Su
Fr	Sa	Mo	We	Fr	Su	Tu	Th
Sa	Th	Su	We	Sa	Tu	Fr	Mo
Su	Tu	Sa	We	Su	Th	Mo	Fr

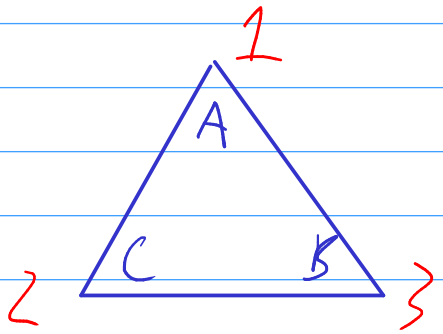
Sa
Th
We
Fr

Sa Mo
Tu - Tu
Th - Th
Fr - Su

$Su^1 = Su$
$Su^2 = Fr$
$Su^3 = Th$
$Su^4 = Su$



ABC



ACB

S
C
a
f_1
f_2
f_3

A f_1 → C B

B C → C B

A a → B

C B → A C

$f_1 a = f_3$

A f_3 → B

B C → A C

a. a a b. f_1 f_3 c. f_3 f_1
d. s f_2 e. a c f. c a

a) c
b) a
c) c
d) f_2

> noncommutative

e) s
f) s

5. Simplify.
   a. f_1 f_2 f_3 b. a f_1 a f_2 a f_3
   c. f_1 a f_2 a f_3 a d. c f_1 c f_2 c f_3

a) f_2
b) f_3
c) f_1
d) f_1

6. Write each of the six moves in terms of only f_1 and c.

S: $f_1 f_1$ | C: c | a: cc | f_1: f_1 | f_2: $f_1 c$ | f_3: $f_1 cc$ or $c f_1$

7. Write each of the six moves in terms of only f_1 and f_2.

S: $f_1 f_1$ | C: $f_1 f_2$ | a: $f_2 f_1$ | f_1: f_1 | f_2: f_2 | f_3: $f_2 f_1 f_2$ or $f_1 f_2 f_1$

8. Fill in the blanks:

a. a f_3 $= f_1$

b. f_2 a $= f_1$

c. f_1 c $= f_2$

d. f_3 $f_1 = c$

$f_1 ca = f_1$

$f_2 a = f_1$

Then…

First…

	s	**c**	**a**	$\mathbf{f_1}$	$\mathbf{f_2}$	$\mathbf{f_3}$
s	s	c	a	f_1	f_2	f_3
c	c	a	s	f_3	f_1	f_2
a	a	s	c	f_2	f_3	f_1
$\mathbf{f_1}$	f_1	f_2	f_3	s	c	a
$\mathbf{f_2}$	f_2	f_3	f_1	a	s	c
$\mathbf{f_3}$	f_3	f_1	f_2	c	a	s

$s \leftrightarrow s$
$a \leftrightarrow c$
$f_1 \leftrightarrow f_1$
$f_2 \leftrightarrow f_2$
$f_3 \leftrightarrow f_3$

$f_2^{\,7} = f_2$

3. Simplify:

a. a^{999} s

b. c^{1000} c

c. f_2^{1000} s

d. $(af_2)^{1001}$ f_3

$a^3 = s$

$(a^3)^{333}$