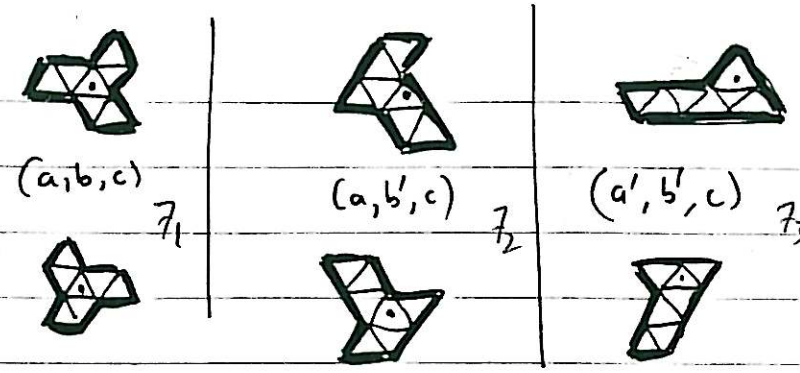


$a = 01.25/04.23$

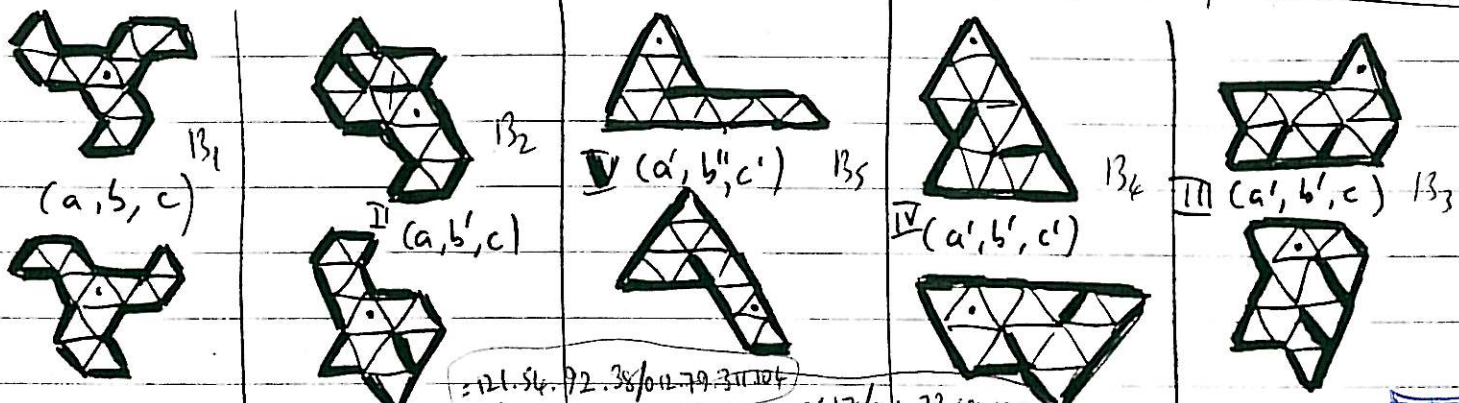
$b = 02.43/01.46$

$c = 04.16/02.15$

$a' = cac = 46.25/24.03$

$b' = aba = 15.63/41.06$

a, b, c



$a = 012.110.35.67/04.23.68.910$

$b = 010.76.92.58/012.69.511.14$

$c = 04.912.16.211/010.51.27.312$

$b' = aba$, $a' = cac$, $c' = b'cb'$, $b'' = a'b'a'$

$= 121.54.92.38/012.79.311.124$

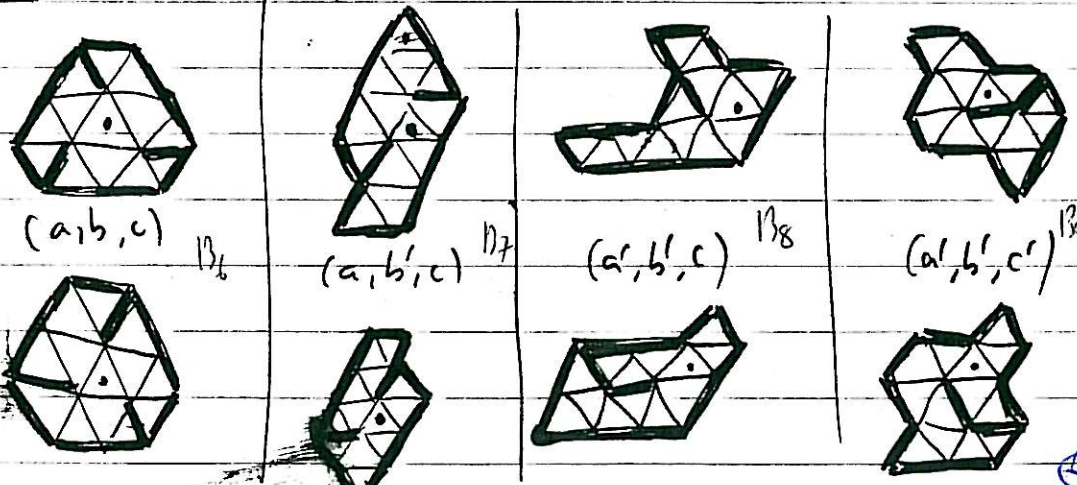
$49.610.35.17/104.73.68.120$

$05.21.126.911/124.51.29.70$

$127.39.42.58/120.39.711.410$

d, e, f

g, h, i



$a = 02.17.36.510/07.311.68.912$

$b = 06.38.95.24/08.97.511.110$

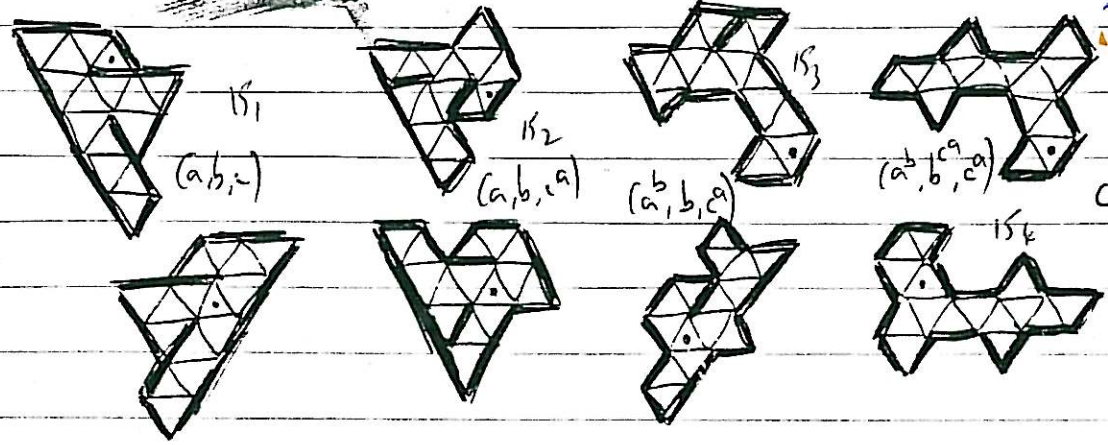
$c = 05.911.12.612/011.18.27.36$

$b' = aba = 23.68.910.04/76.120.53.110$

$a' = cac = 51.27.312.010/112.6031.912$

$c' = a'ca' = 101.911.57.63/62.38.117.10$

j, k, l



$a = 014.65.910.112.711.26$

$011.15.36 \quad 10.89.13.14$

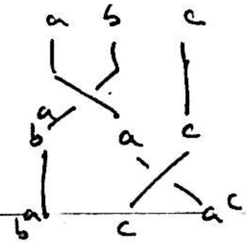
$b = 46.113.89.27/010.12.69.1114$

$c = 14.1.34.122.811/05.26.67.1114$

$c' = aca$ $012.35.16.87/144.65.211.70$

$a' = bab$ $014.65.810.1312.211.74$ $1011.25.34.90.86.312$

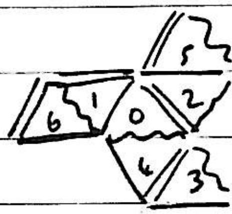
$b' = c'bc'$ $41.613.77.28/710.112.59.124$



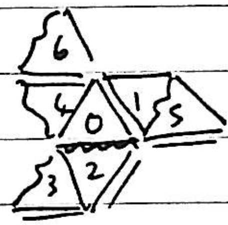
$01.25/04.23 = a$ $\quad a^c = 46.25/24.03$

$02.43/01.46 = b$ $\quad b^a = 15.43/41.06$

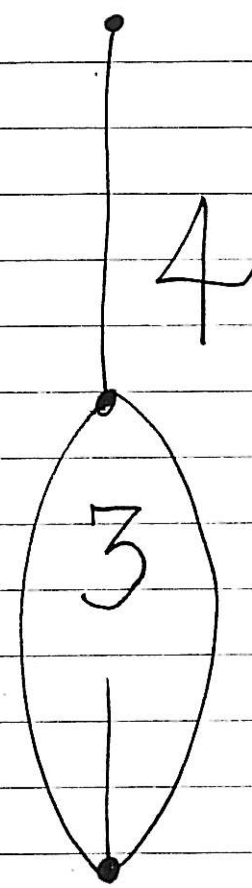
$04.16/02.15 = c$



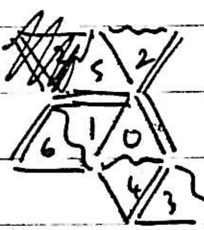
a, b, c



*444



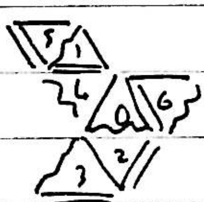
~~a, b, c~~



a, b^a, c

(a, b', c)

$b' = aba$

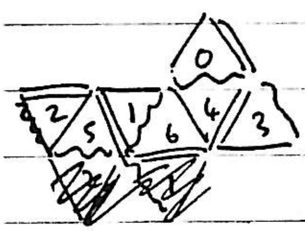


*443

a^c, b^a, c

(a', b', c)

$a' = cac$



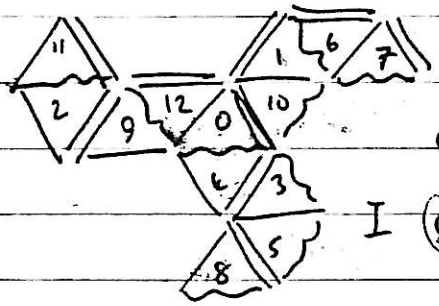
*433

$L_3(2)$

a 012.110.35.67 / 04.23.68.410
b 010.34.92.58 / 012.69.511.14
c 04.912.16.211 / 010.51.27.312

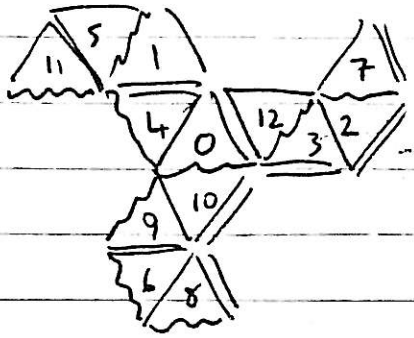
a^c = 47.610.35.17 / 410.712.68.09
b^a = 112.45.29.38 / 412.810.511.10
~~a^c = 49.610.35.17 / 410.712.68.09~~
c^{b^a} = 05.12.126.911 / 18.011.27.34
$(b^a)^{ac}$ = 712.93.24.58 / 107.64.511.89

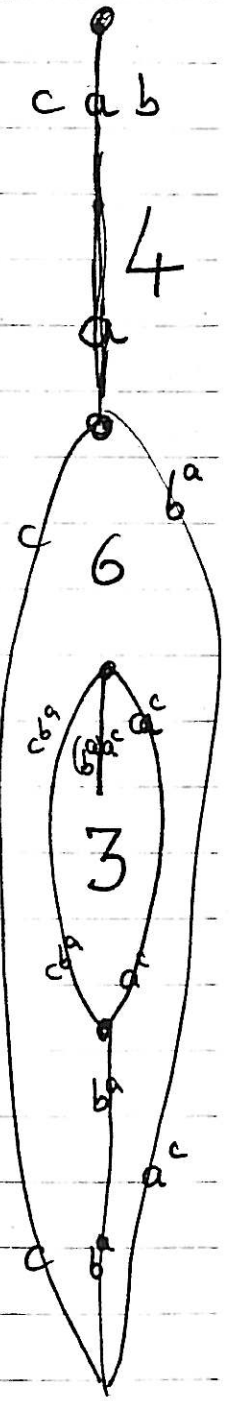
*444



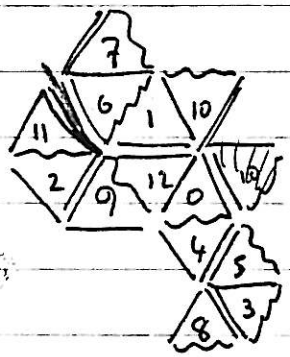
a, b, c

I (a, b, c)





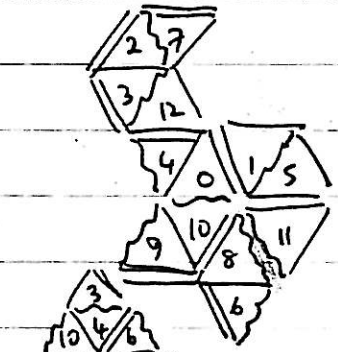
*644

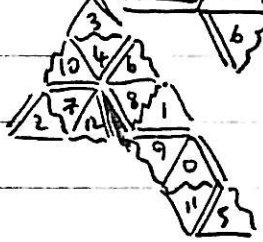


a, b^a, c

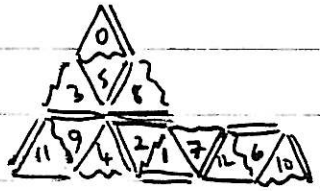
(a, b', c)

II b' = aba





*633

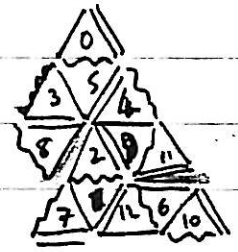


a^c, $(b^a)^{ac}$, c^{b^a}

(a', b'', c')

V b'' = a'b'a'

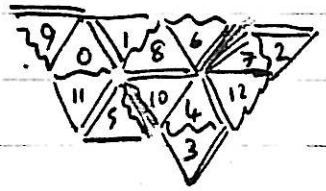
*663



a^c, b^a, c^{b^a}

(a', b', c')

IV c' = b'cb'

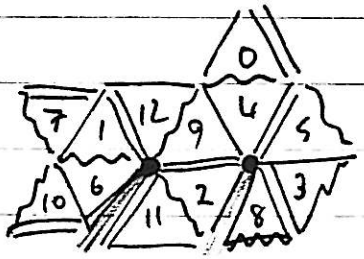


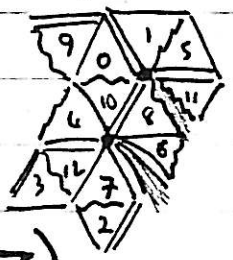
*664

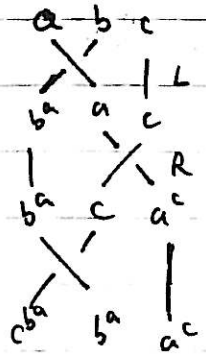
a^c, b^a, c

III (a', b', c)

a' = cac







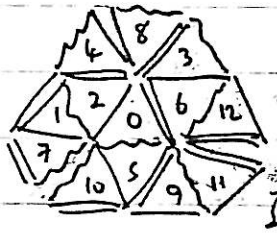
$L_3(3)$ FIRST SERIES

02.17.56.510/07.511.68, 712 = a a^c = 51.27.512.010/211.04.16.912

06.38.95.24/08.97.511.110 = b b^a = 23.68.109.04/67.120.53.110

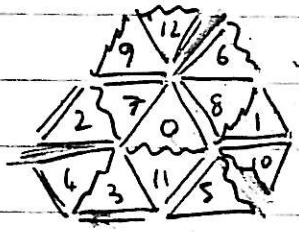
05.911.12.611/011.16.27.34 = c ~~c^{b^a} = 45.1011.13.812/112.8.10.26.54~~

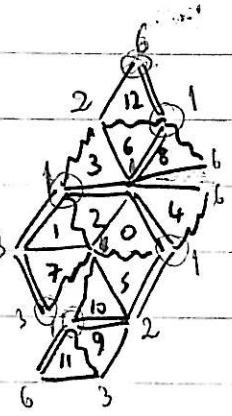
c^{a^c} = 110.911.57.63/24.68.117.30



666 (a,b,c)

I (a,b,c)

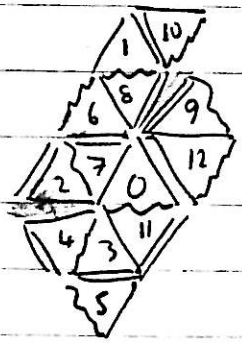




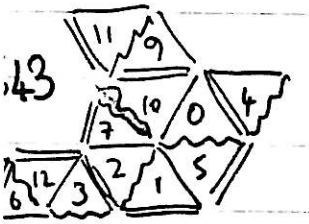
663 (a, b^a, c)

II (a, b', c)

$b' = aba$



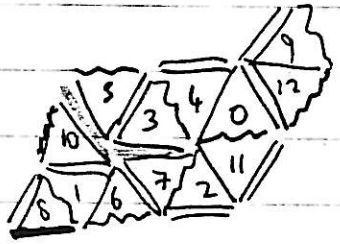
666236332

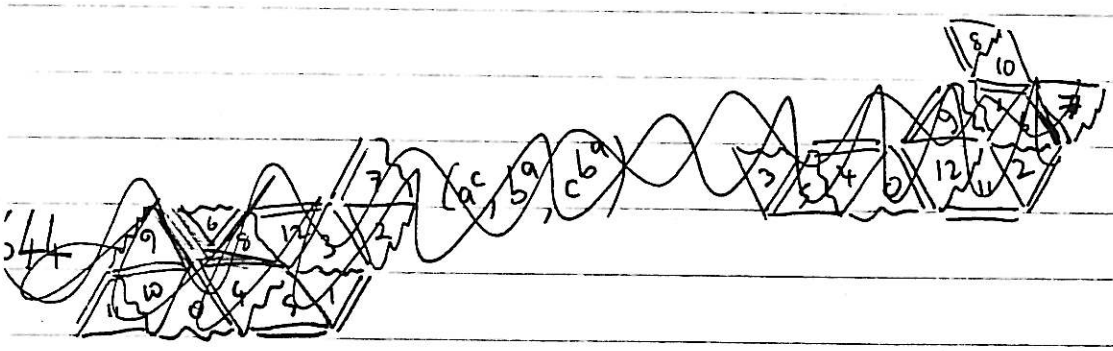


43 (a^c, b^a, c)

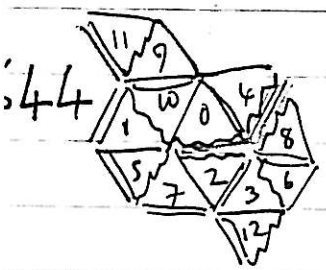
III (a', b', c)

$a' = cac$





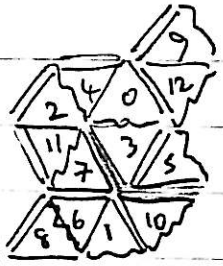
44 (a^c, b^a, c^{b^a})



44 (a^c, b^a, c^{a^c})

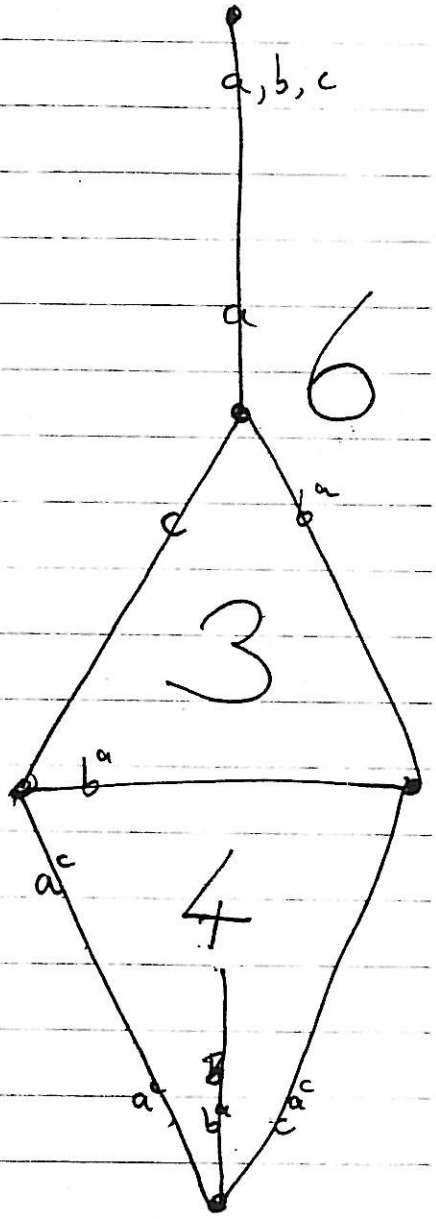
IV (a', b', c')

$c' = a'ca'$



L3(3)

SECOND SERIES



0 14 . 4 5 . 9 10 . 1 12 . 7 11 . 2 6 / 0 11 . 1 5 . ~~2~~ . 3 4 . 6 10 . ~~7~~ . 8 9 . ~~12~~ 13 14

4 6 . 1 13 . 8 9 . 2 7 / 0 10 . 1 2 . ~~3~~ . ~~4~~ . ~~5~~ . 6 9 . ~~7~~ . ~~8~~ . ~~11~~ . 12 14 . ~~13~~

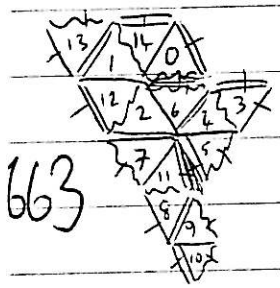
14 1 . 3 4 . 12 2 . 8 11 / 0 5 . ~~1~~ 2 6 . ~~3~~ . 6 7 . ~~8~~ . ~~9~~ . ~~10~~ . 11 14 . ~~12~~ . ~~13~~

0 12 . 3 5 . 1 6 . 8 7 / 1 11 . 2 3 . 10 7 . 0 13

0 14 . 6 5 . 8 10 . 13 12 . 2 11 . ~~7~~ 4 / 10 11 . 2 5 . 3 4 . 9 0 . 8 6 . 13 12

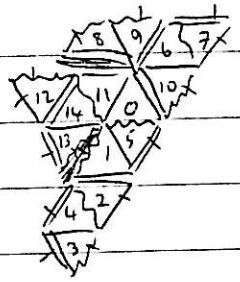
4 ~~1~~ 6 13 . 7 9 . 2 8 / 7 13 . 11 3 . 6 9 . 12 14

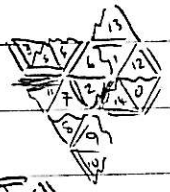
0	0 1 2 4 8 5 10
1	14 0 1 3 7 4 9
2	13 14 0 2 6 3 8
3	12 13 14 1 5 2 7
4	11 12 13 0 4 1 6
5	10 11 12 14 3 0 5
6	9 10 11 13 2 14 4
7	8 9 10 12 1 13 3
8	7 8 9 11 0 12 2
9	6 7 8 10 14 11 1
10	5 6 7 9 13 10 0
11	4 5 6 8 12 9 14
12	3 4 5 7 11 8 13
13	2 3 4 6 10 7 12
14	1 2 3 5 9 6 11



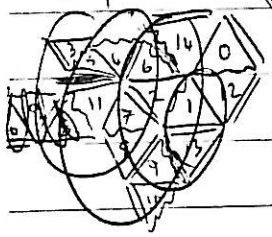
663

a, b, c

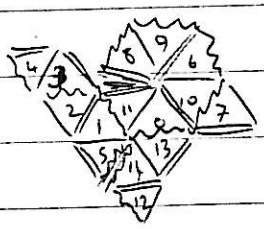


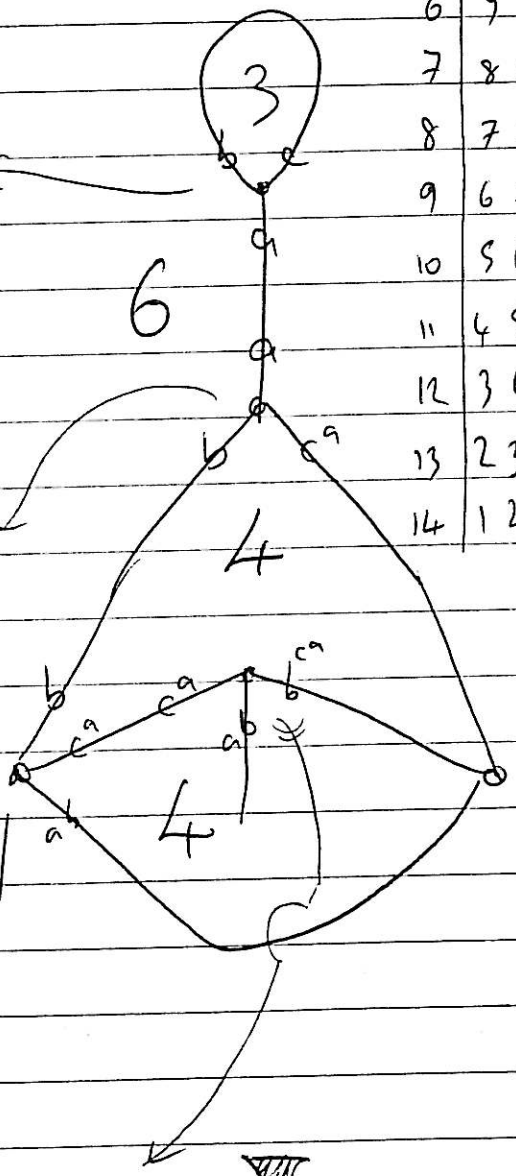


664



a, b, c^a





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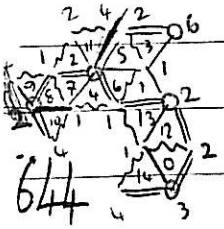
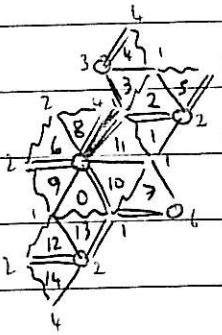
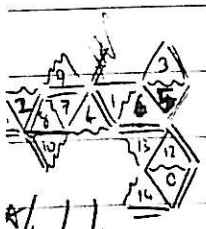


a^b, b, c^a

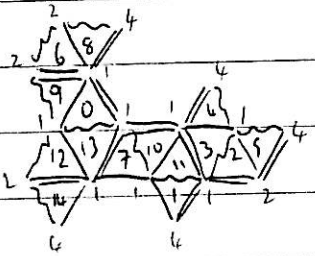
644

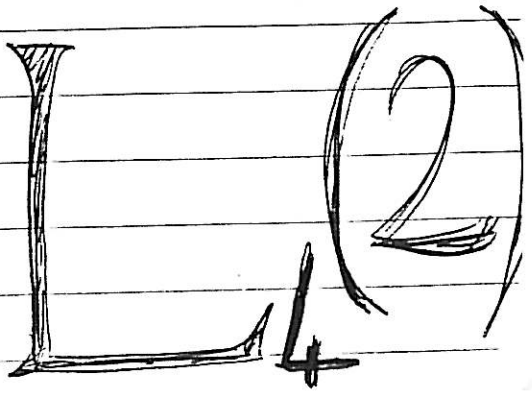




a^b, b^(c^a), c^a

444

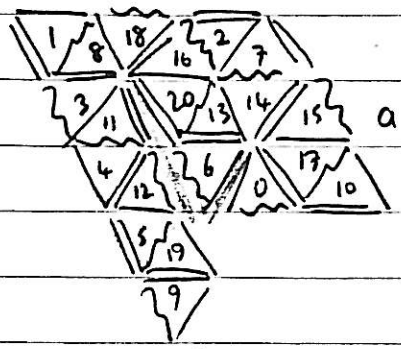




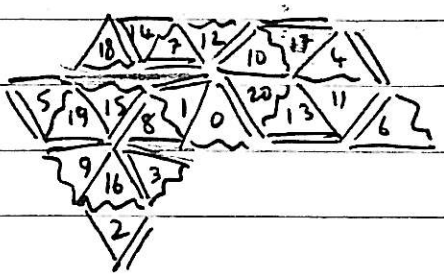
a = 15 17 . 5 12 . 13 14 . 8 18 . 3 11 . 7 2 . 16 20 / 0 1 . 4 17 . 7 12 . 9 16 . 10 20 . 11 13 . 15 19

b = 16 18 . 6 13 . 14 15 . 9 19 . 4 12 . 8 3 . 17 0 / 0 20 . 3 16 . 6 11 . 8 15 . 9 19 . 10 12 . 14 18

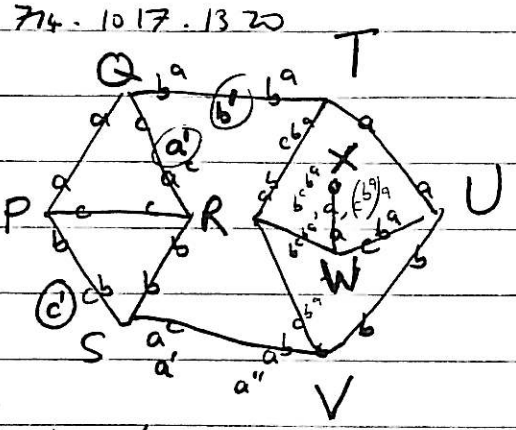
c = 1 8 . 2 16 . 4 11 . 5 19 . 7 14 . 10 17 . 13 20 / 1 8 . 2 16 . 4 11 . 5 19 . 7 14 . 10 17 . 13 20



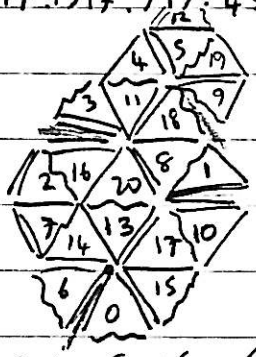
a, b, c



P

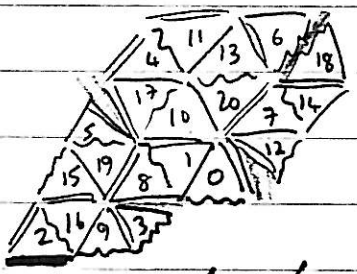


$b' = b^a$ = 20 8 . 6 14 . 13 17 . 9 19 . 4 5 . 18 11 . 15 0 / 1 10 . 3 9 . 6 13 . 8 19 . 16 15 . 20 7 . 14 18

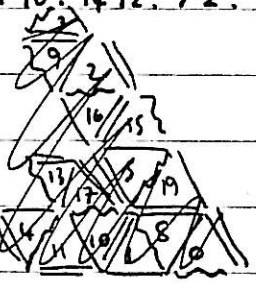


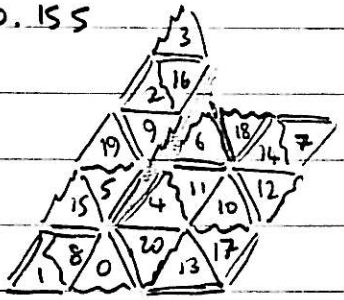
a, b', c

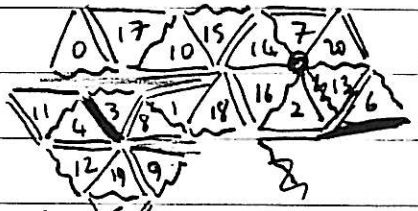
Q



$c' = a^c$ = 15 10 . 19 12 . 20 7 . 1 18 . 3 4 . 14 16 . 2 13 / 0 8 . 11 10 . 14 12 . 9 2 . 17 13 . 4 20 . 15 5



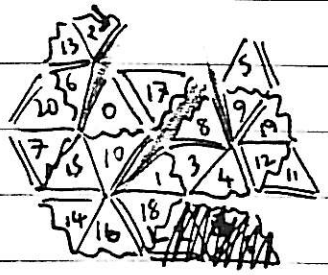




a', b, c

R seems isomorphic to P

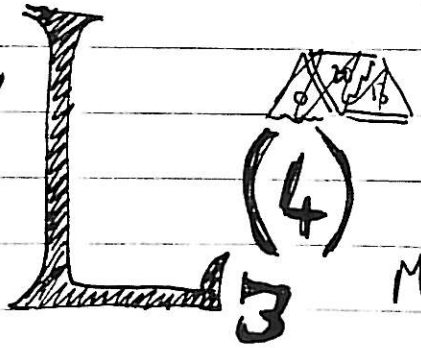
$c' = c^b$ = 13 2 18 . 12 11 . 5 9 . 7 15 . 10 0 . 6 20 / 1 15 . 2 3 . 4 6 . 5 9 . 7 18 . 12 17 . 13 0



Möbius Strip

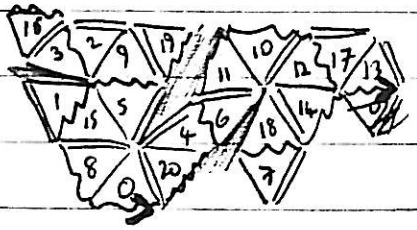
a', b, c'

S



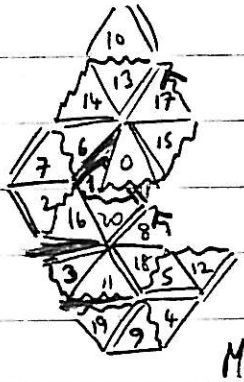
(4)

3



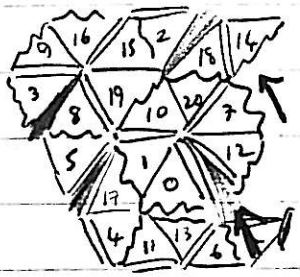
Möbius Strip again

$c'' = c^{b^a} = 120.216.518.49.76.1013.178 / 1019.215.411.58.2018.117.67$



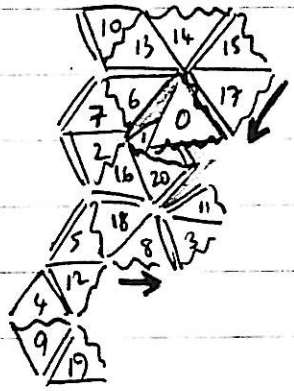
a, b', c''

T



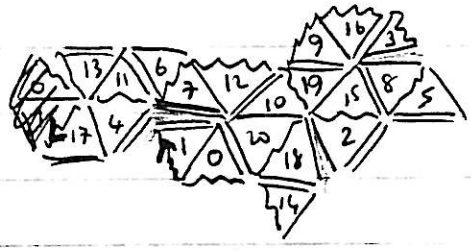
Möbius Strip again

Möbius Strip with overlap



a, b, c''

U

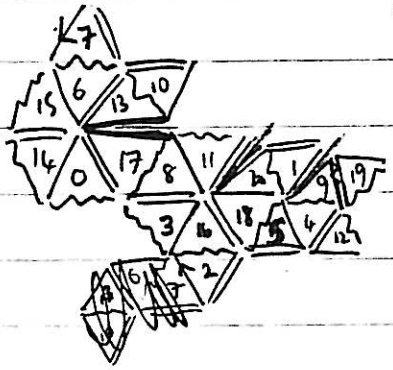


Annulus.

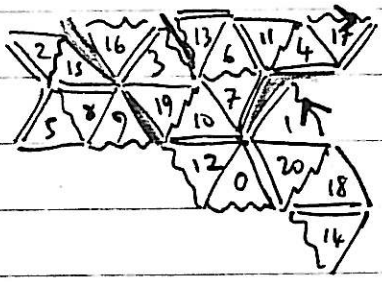
Annulus.

$a'' = a^b = 140.54.615.316.811.72.1820 / 201.417.710.193.120.613.89$

a'', b, c''



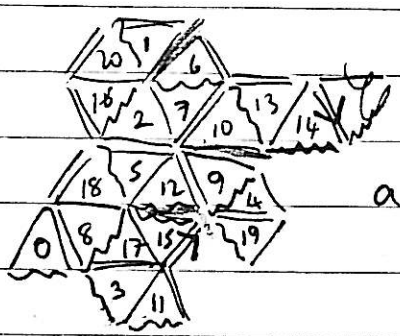
V



Annulus

Annulus.

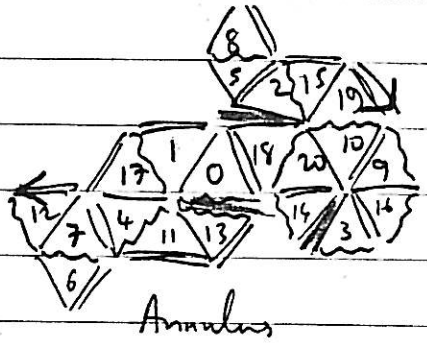
$b'' = b^{c^{b^a}} = 2\,5.\,7\,10.\,14\,15.\,4\,19.\,9\,12.\,17\,3.\,8\,0 / 0\,18.\,3\,16.\,7\,4.\,5\,2.\,9\,10.\,19\,12.\,14\,20$



Annulus

a, b'', c''

W

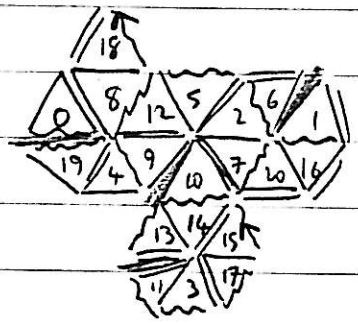


Annulus

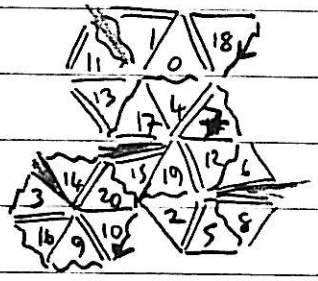
$c''' = \left(c^{b^9}\right)^a = 1\,16.\,7\,20.\,12\,8.\,4\,9.\,2\,6.\,10\,14.\,15\,18 / 20\,15.\,2\,19.\,17\,13.\,5\,8.\,10\,18.\,0\,4.\,6\,12$

$a\ b''\ c'''$

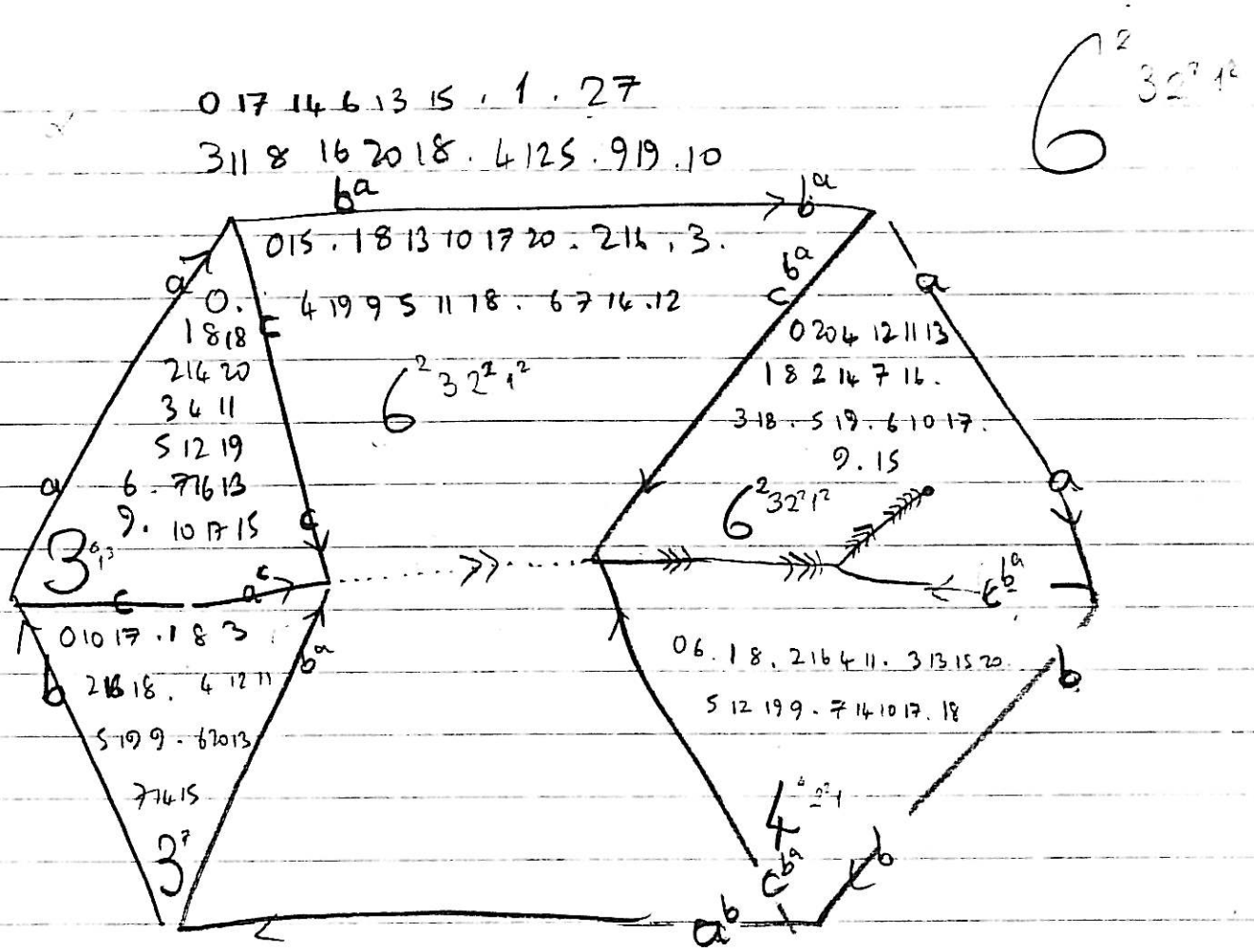
X



Möbius Strip



(A very sweet one!)



abc has order 14