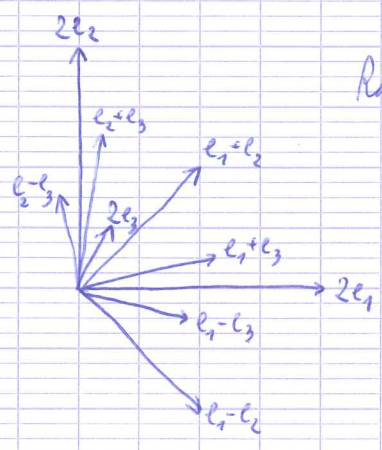


$(C_3)$  Racines positives:

Racines simples:  
 $e_1 - e_3, e_2 - e_3, 2e_3$

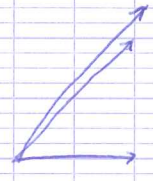


Chambre de Weyl: la même;

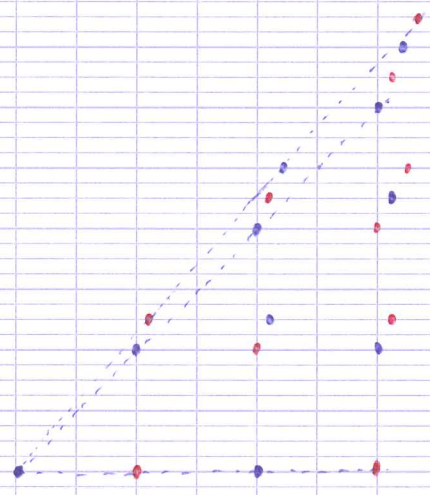
~~$\delta = \frac{5}{2}e_1 + \frac{3}{2}e_3$~~

$\delta = 3e_1 + 2e_2 + e_3$

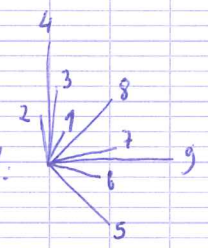
Poids fondamentaux:



Poids contenus dans la chambre de Weyl:



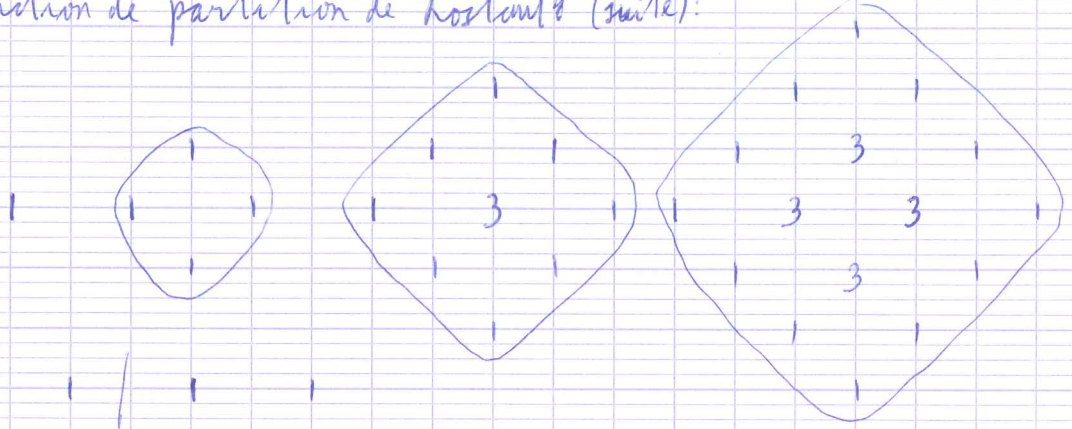
Ordre des racines:  
 Fonction de partition de Kostant:



1				
2	2	2	2	1
4	4	4	3	
6	6	5	3	
9	9	8	6	3
12	11	9	6	3
16	15	13	10	6

1									
2									
4	3	1	2						
4	10	4	4	3	1	2			
13	16	14	3	1	2				
28	19	10	3	4	2	1			
32	43	20	23	13	7	2	2		
49	52	20	32	14	8	3	3		
84	55	43	4	14	8	4	3		
100	103	35	16	17	8	4	3		
138	56	23	17	5	5	3	3		
	67	23	6						

Fonction de partition de Kostant (suite):

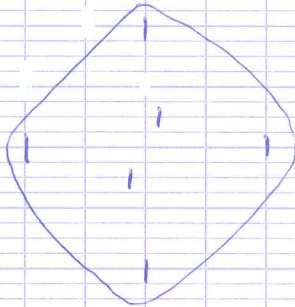


- 111
- 112
- 113
- 114
- 122
- 123
- 124
- 133
- 134
- 144
- 212
- 213
- 224
- 233
- 234
- 244
- 333
- 334
- 344
- 444
- 51
- 52
- 53
- 54

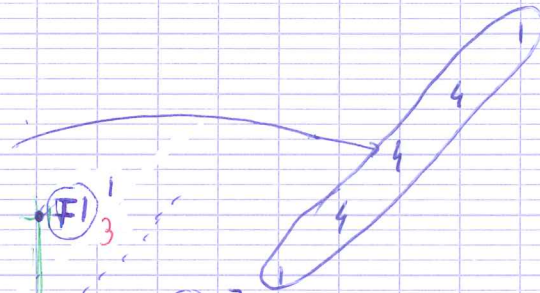
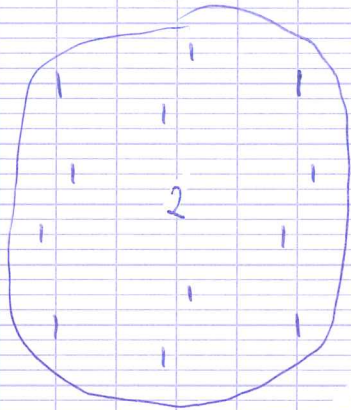
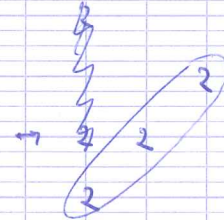
	1		1		
	4	4	2		
9	9	7	2		
	16	14	8	2	
	23	17	8	2	
					2
	4	4	2		
	13	10	3		
26	23	13	3		
	43	32	14	3	
	67	56	35	14	3
	4	4	2		
	13	10	3		
32	28	16	4		
	49	43	19	4	
100	84	52	20	4	
	138	103	55	20	4

$sp(2,1)$  : dans une sous-alg. de Cartan maximalement non-compacte, la seule rac. réelle positive est  $(e_1 + e_2)$ .

① repr. triviale.

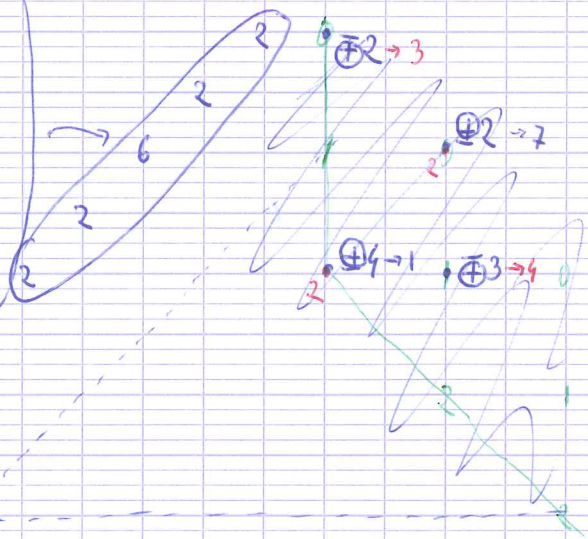
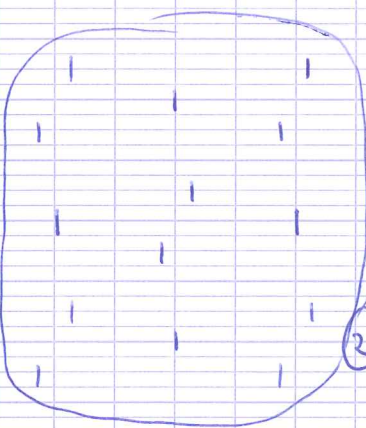


repr. standard



Formule de Weyl:  

$$\frac{(431) - 8(81784182) - (321) - 8(42843121)}{(14)}$$

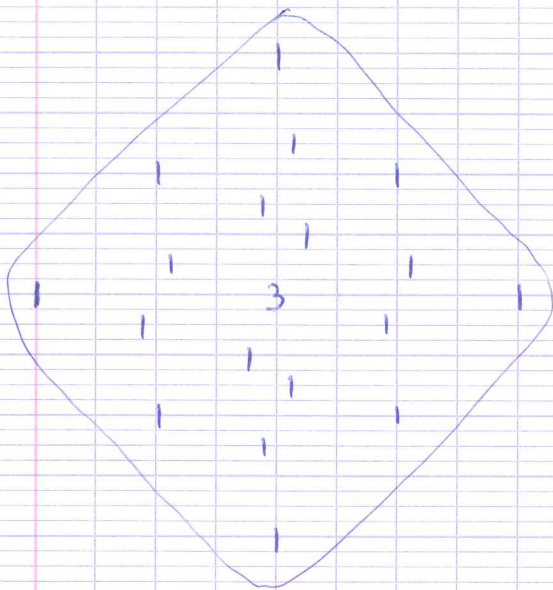


Formule de Weyl:  

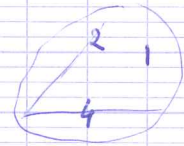
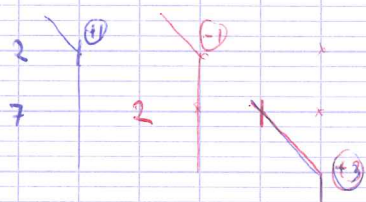
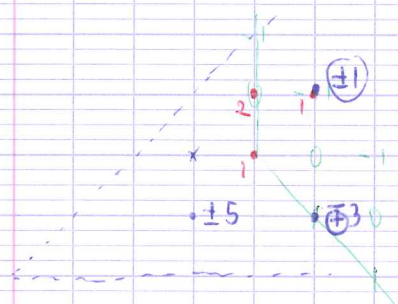
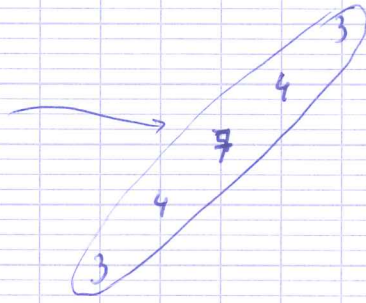
$$\frac{(432) - 8(84765121) - (321) - 8(42843121)}{(14)}$$

② → 2  
 ③ → -1

$$\begin{matrix} 5 & 2 & 1 \\ 3 & 2 & 1 \end{matrix} \rightarrow \begin{matrix} 10 & 4 & 2 & 7 & 8 & 8 & 3 & 4 & 1 \\ 6 & 4 & 2 & 8 & 4 & 8 & 1 & 2 & 1 \end{matrix} \rightarrow \textcircled{21}$$

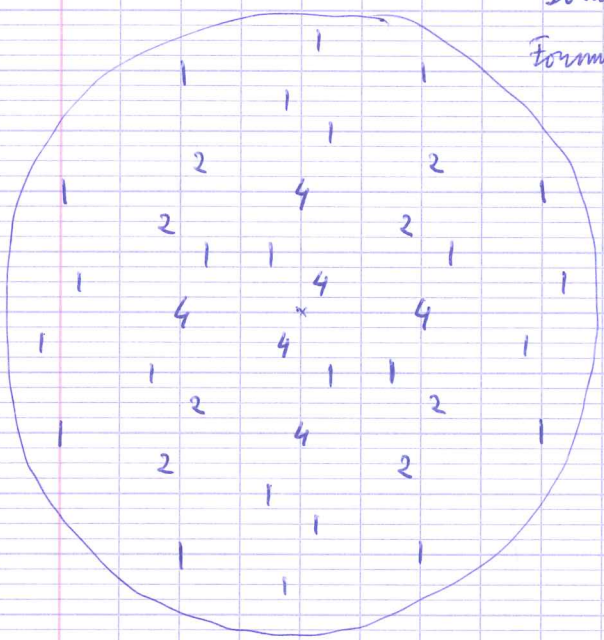


repr. adj.

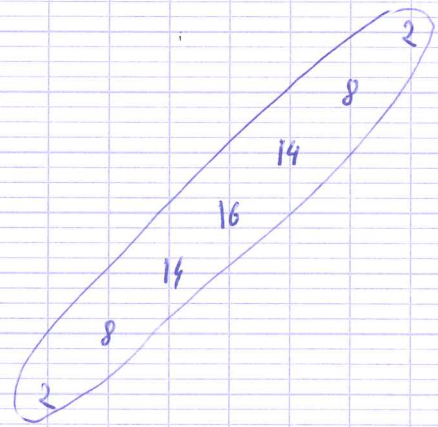


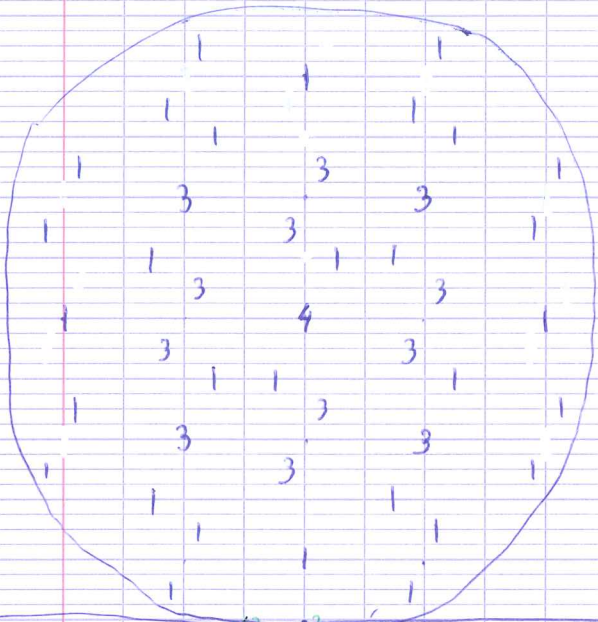
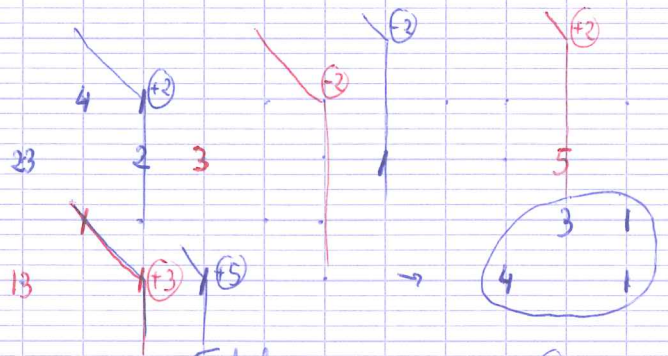
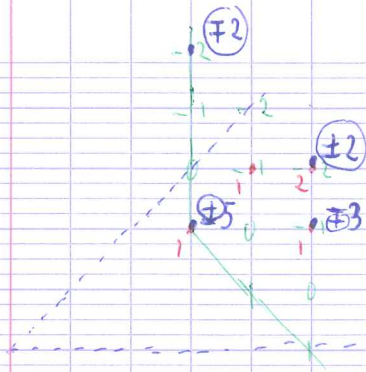
Total:  $4 \times 6 + 2 \times 8 + 1 \times 24 = \textcircled{64}$

Formule de Weyl:  $\frac{531}{321} \rightarrow \frac{1062}{84} \frac{864}{2848} \frac{4343}{121} \rightarrow \textcircled{64}$



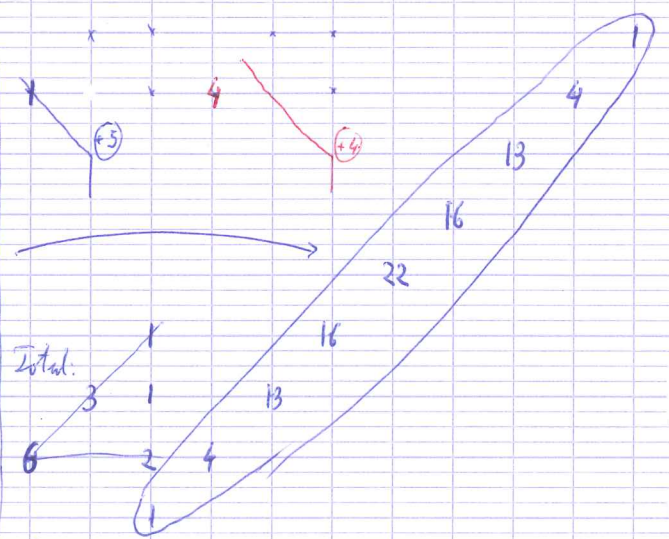
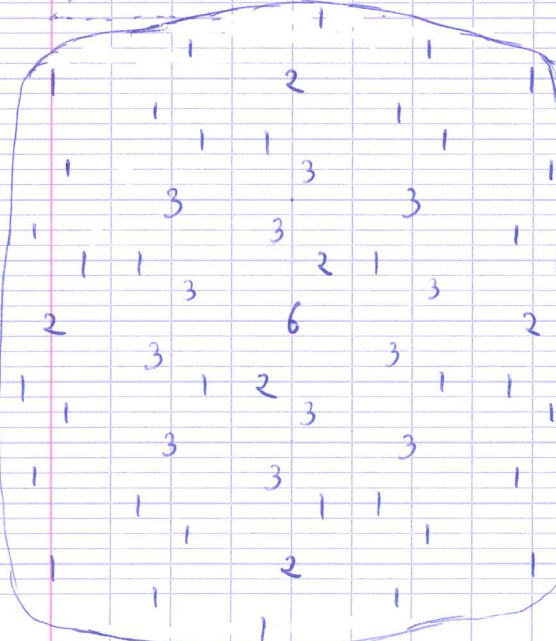
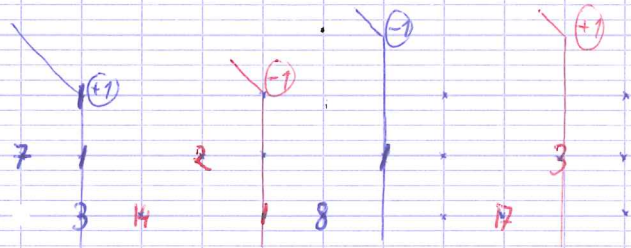
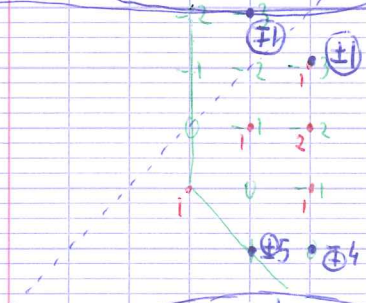
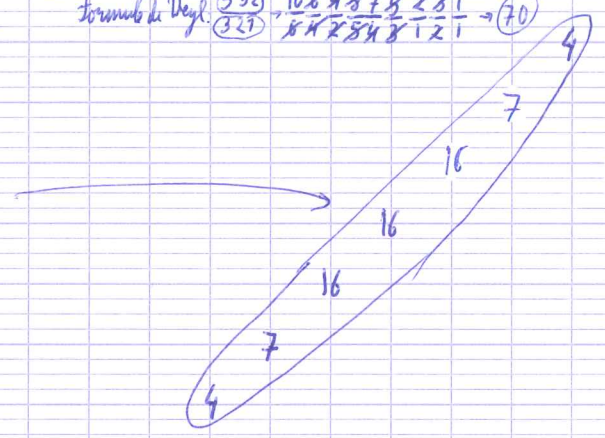
→





Total:  $4 + 3 \times 12 + 1 \times 6 + 1 \times 24 = 70$

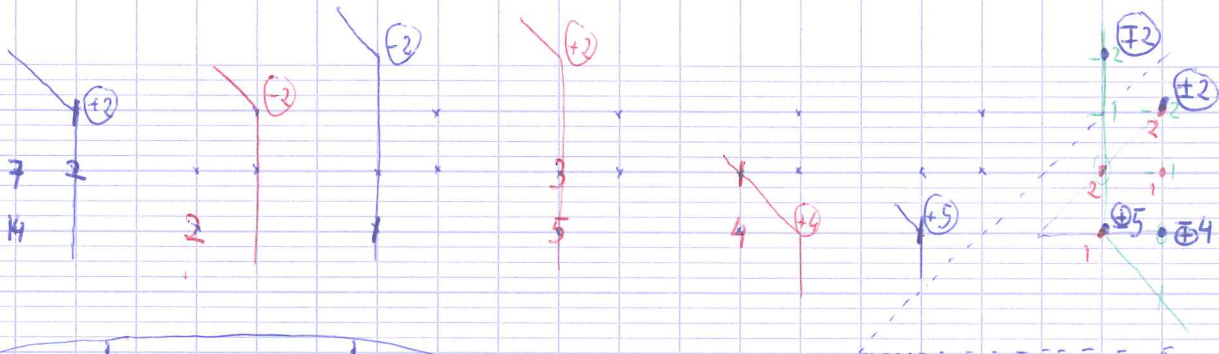
Formule de Weyl:  $\frac{530}{321} \rightarrow \frac{10 \cdot 8 \cdot 4 \cdot 8 \cdot 7 \cdot 8 \cdot 2 \cdot 8 \cdot 1}{8 \cdot 4 \cdot 8 \cdot 4 \cdot 8 \cdot 1 \cdot 2 \cdot 1} \rightarrow 70$



Total:

Dim. totale:  $6 + 3 \times 12 + 1 \times 12 + 2 \times 6 + 1 \times 24 = 90$

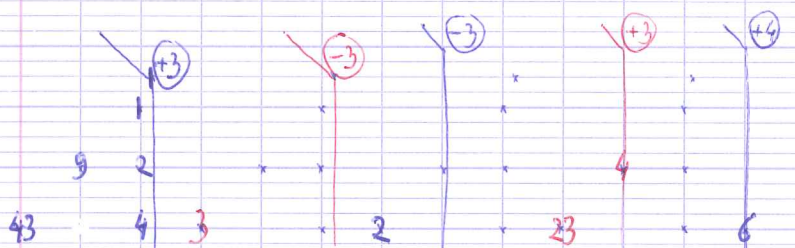
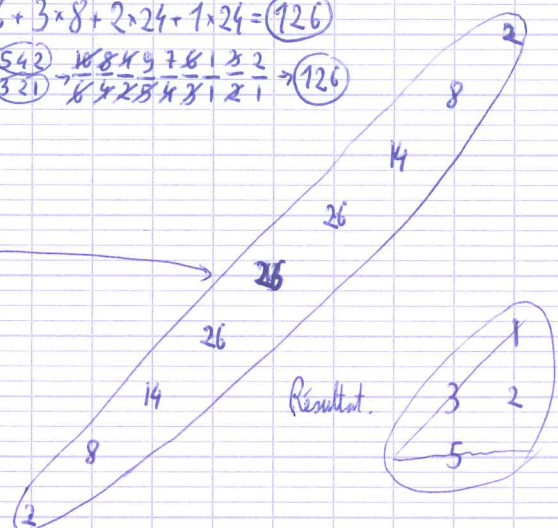
Formule de Weyl:  $\frac{541}{321} \rightarrow \frac{10 \cdot 8 \cdot 8 \cdot 9 \cdot 8 \cdot 8 \cdot 1 \cdot 4 \cdot 8}{8 \cdot 4 \cdot 8 \cdot 8 \cdot 4 \cdot 8 \cdot 1 \cdot 2 \cdot 1} \rightarrow 90$



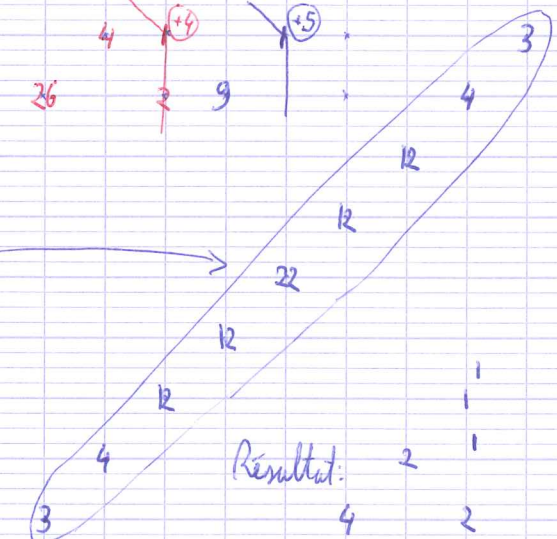
1		2		1
1	2		2	1
1	1	2	2	1
2	3	5	3	2
1	2	2	3	2
2	5	5	5	2
2	1	2	2	2
2	3	5	3	2
1	3	1	2	3
1	1	2	2	1
1	2	2	2	1
1	1	2	2	1

Total:  $5 \times 6 + 3 \times 8 + 2 \times 24 + 1 \times 24 = 126$

Formula de Moivre:  $\frac{542}{321} \rightarrow \frac{10^8 4^9 7^8 1^3 2}{8^4 2^8 4^3 1^2 1} \rightarrow 126$



1		1		1
1	1	2	1	1
1	1	1	1	1
1	1	2	1	1
1	2	2	2	1
1	1	2	1	2
2	2	4	2	2
1	2	2	2	1
1	1	2	2	1
1	1	2	2	1
1	1	2	1	1
1	1	2	1	1
1	1	1	1	1



Total:  $4 + 2 \times 12 + 1 \times 12 + 1 \times 8 + 1 \times 24 + 2 \times 6 = 84$

Formula de Moivre:  $\frac{543}{321} \rightarrow \frac{10^2 8^3 8^3 7^1 3^1}{8^4 2^8 4^3 1^2 1} \rightarrow 84$