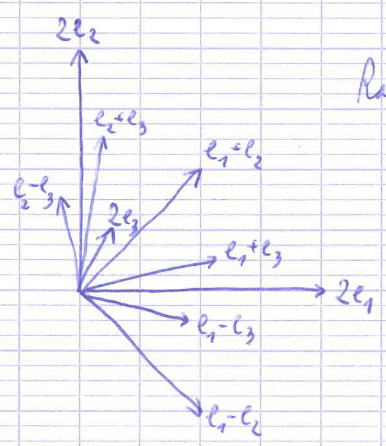
12/05/2015

C_3 Racines positives:



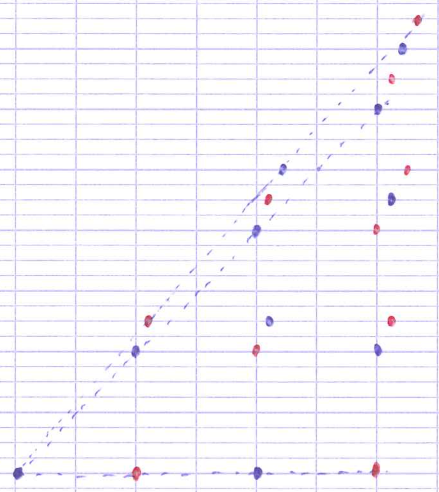
Racines simples: $e_1-e_2,\ e_2-e_3,\ 2e_3$

Chambre de Weyl: la même;

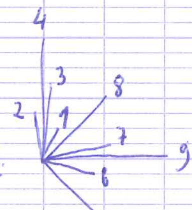
~~$\delta = \frac{?}{2}e_1 + \frac{5}{2}e_2 + \frac{3}{2}e_3$~~

$\delta = 3e_1 + 2e_2 + e_3$ Poids fondamentaux:

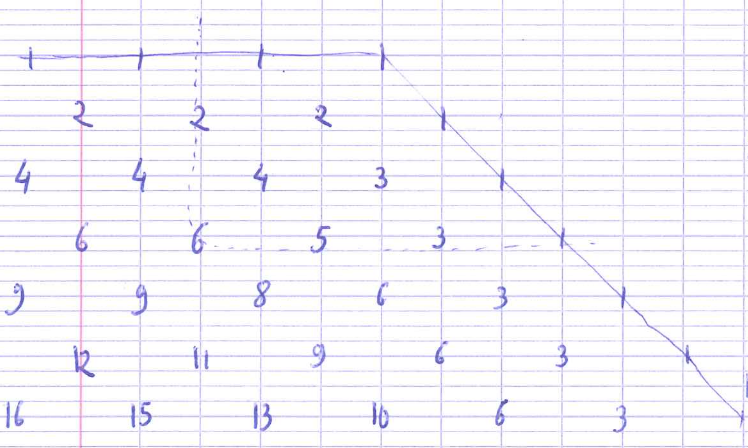
Poids contenus dans la chambre de Weyl:

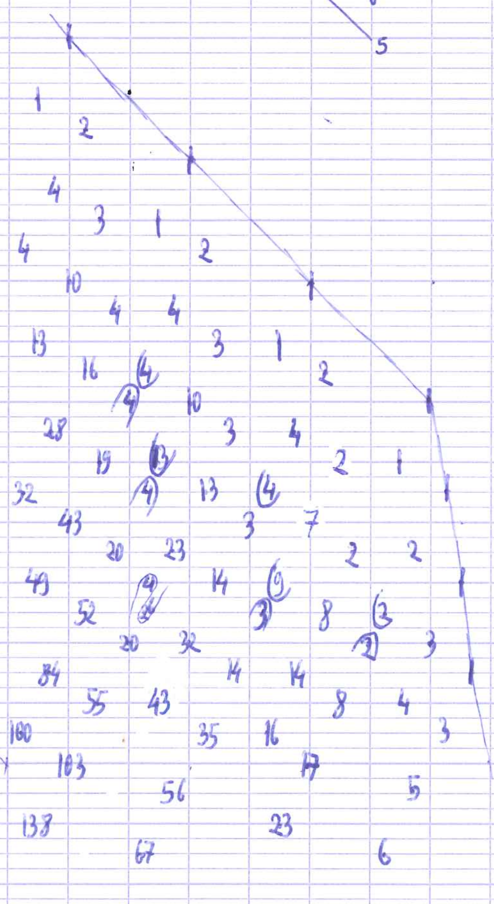


Ordre des racines:



Fonction de partition de Kostant:





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Fonction de partition de Kostant (suite) :

111
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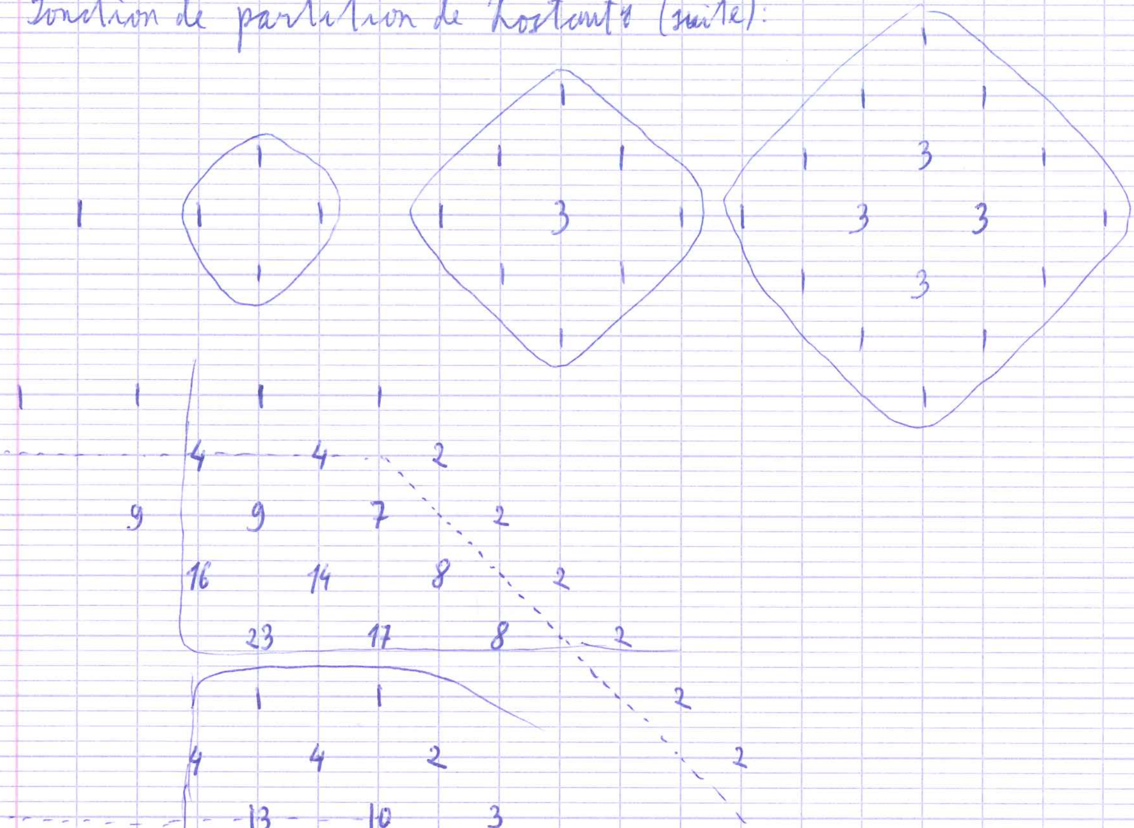
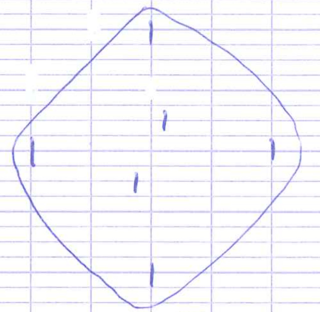
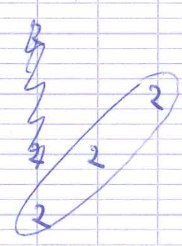


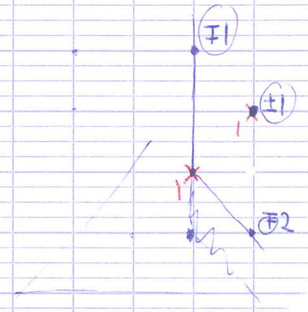
$\boxed{sp(2,1)}$: dans une sous alg. de Cartan maximalement non-compacte, la seule rac. réelle positive est e_1+e_2

1 repr. triviale → 1



repr. standard ↔

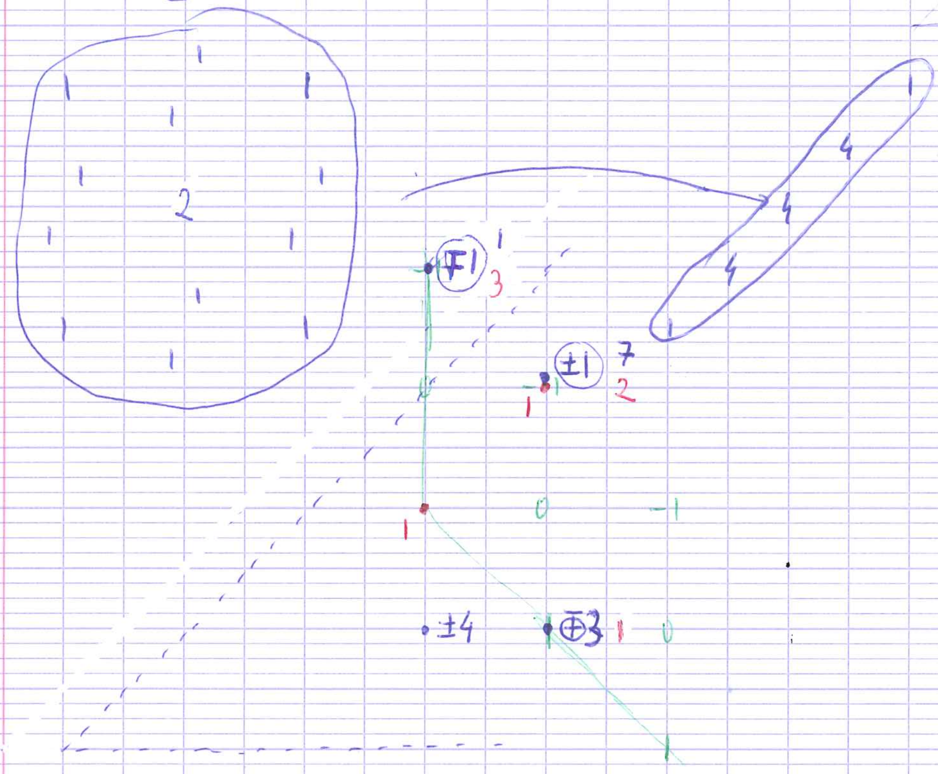


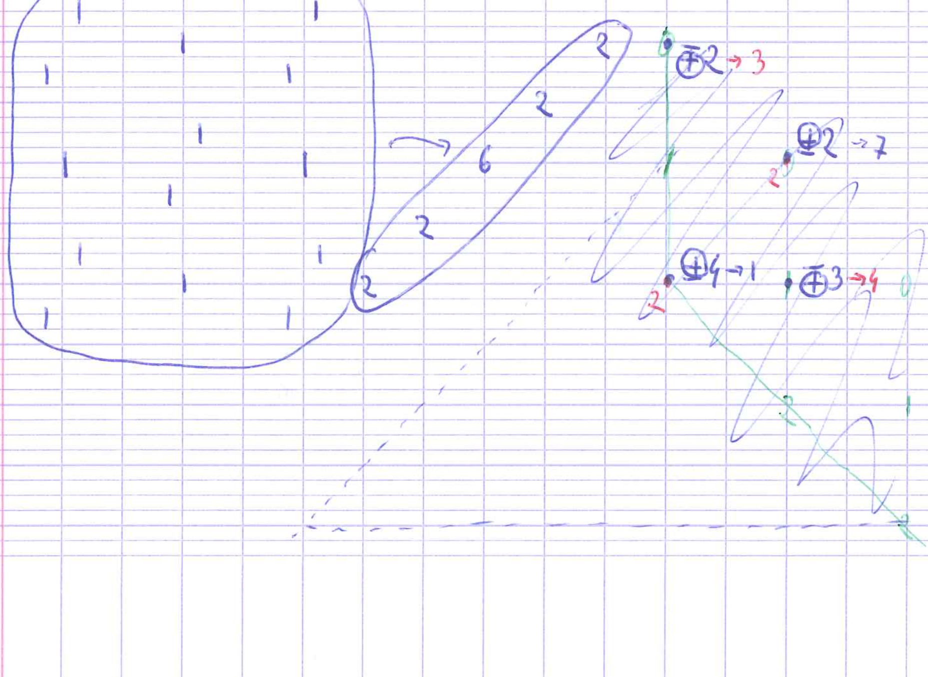


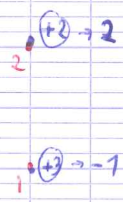
Formule de Weyl:

$$\frac{(4\,3\,1)}{(3\,2\,1)} \to \frac{\cancel{8}}{\cancel{8}}\frac{\cancel{6}}{\cancel{4}}\frac{\cancel{4}}{\cancel{2}}\frac{7}{\cancel{5}}\frac{\cancel{8}}{\cancel{4}}\frac{\cancel{4}}{\cancel{3}}\frac{1}{1}\frac{\cancel{8}}{\cancel{2}}\frac{2}{1}$$

14





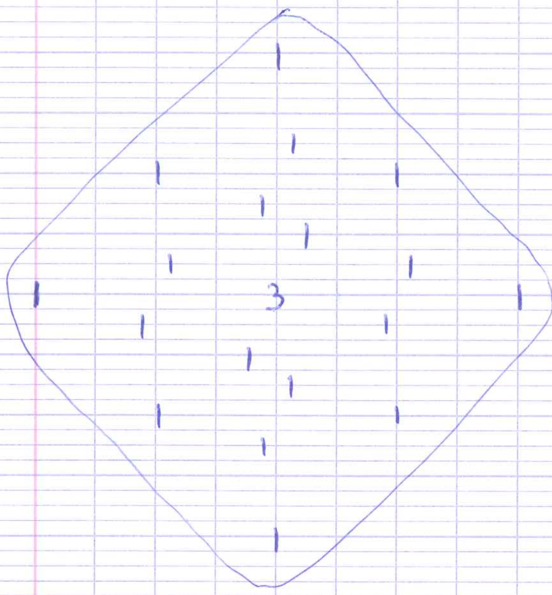


Formule de Weyl:

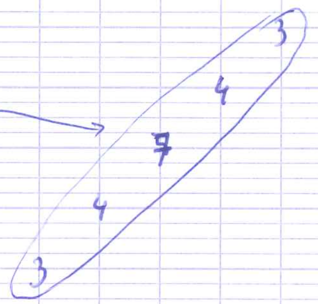
$$\frac{(4\,3\,2)}{(3\,2\,1)} \to \frac{\overset{2}{\cancel{8}}\,\cancel{6}\,\cancel{4}}{\cancel{8}\,\cancel{4}\,\cancel{2}}\frac{7}{\cancel{5}}\frac{\cancel{6}\,\cancel{5}\,\cancel{1}\,21}{\cancel{4}\,\cancel{3}\,\cancel{1}\,21}$$

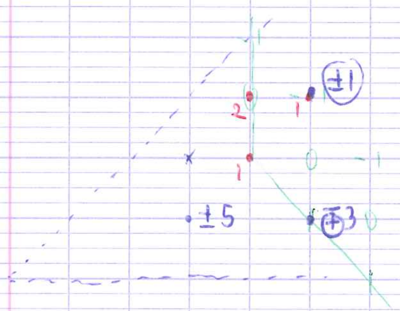
14

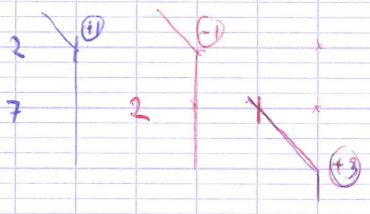
5 2 1 → 10 4 2 7 6 3 3 4 1 → 21
3 2 1 → 6 4 2 5 4 3 1 3 1

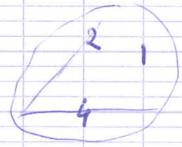


repr. adj.



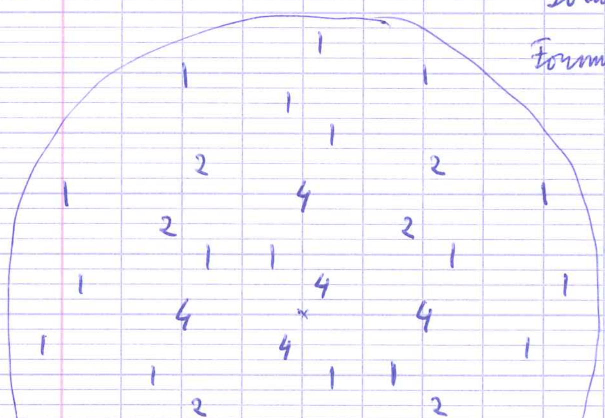


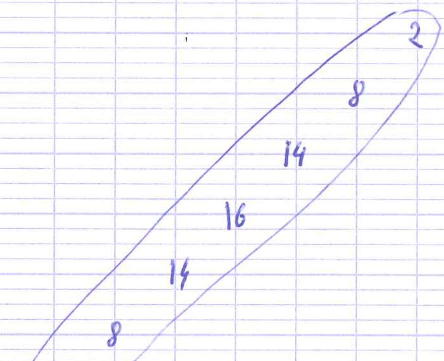


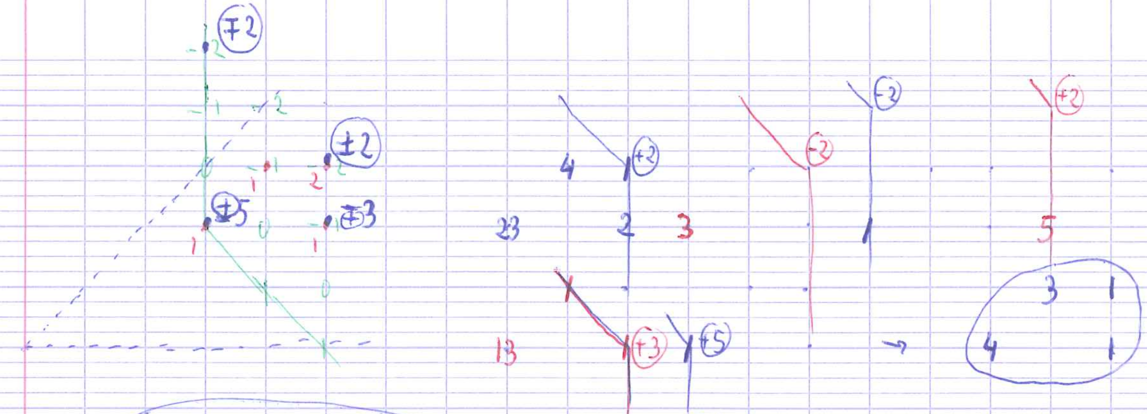


Total: $4 \times 6 + 2 \times 8 + 1 \times 24 = 64$;

Formule de Weyl: $\begin{matrix}5&3&1\\3&2&1\end{matrix} \to \frac{10}{6}\,\frac{6}{4}\,\frac{2}{2}\,\frac{8}{5}\,\frac{6}{4}\,\frac{4}{3}\,\frac{2}{1}\,\frac{4}{2}\,\frac{2}{1} \to 64$

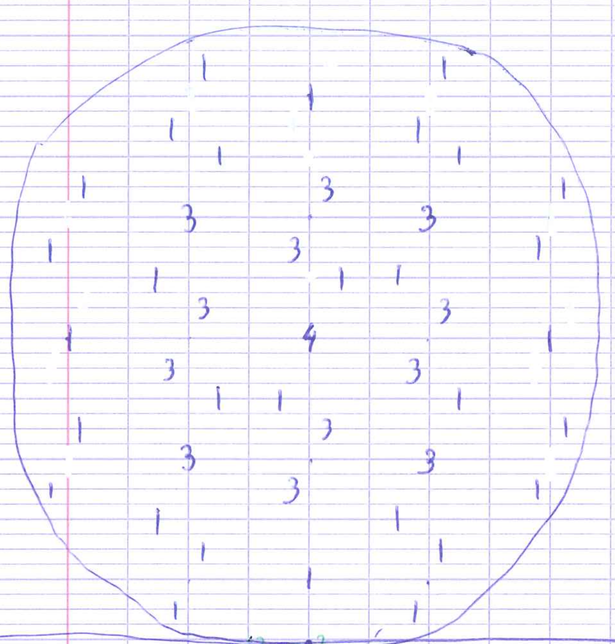


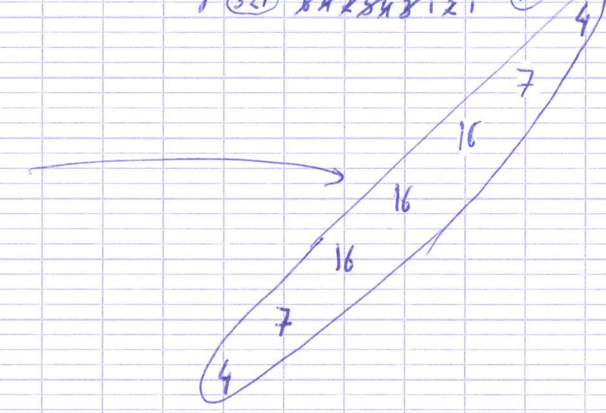


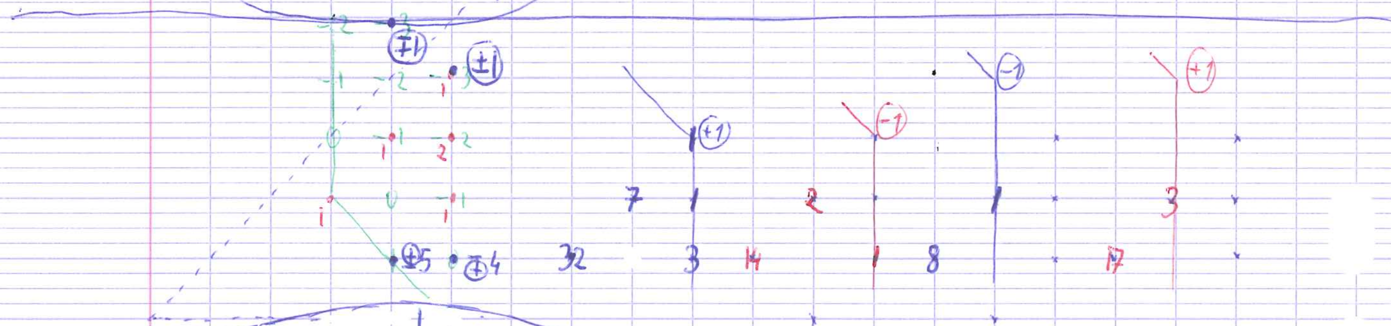


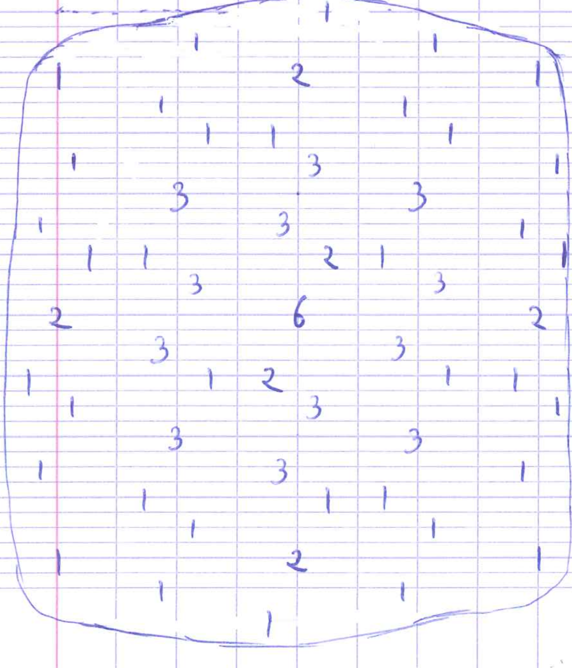
Total: $4+3\times 12+1\times 6+1\times 24=70$

Formule de Weyl: $\frac{(5\,3\,2)}{(3\,2\,1)} \to \frac{10}{6}\frac{6}{4}\frac{4}{2}\frac{8}{5}\frac{7}{4}\frac{5}{3}\frac{2}{1}\frac{3}{2}\frac{1}{1} \to 70$

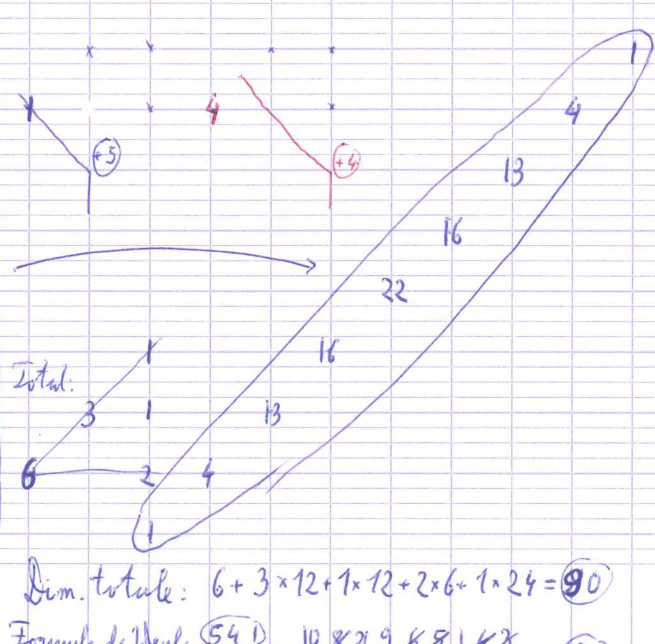






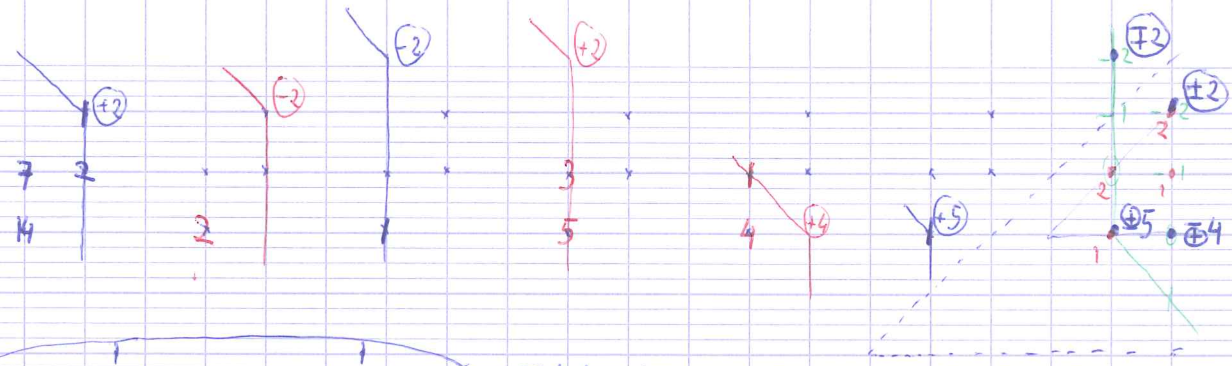


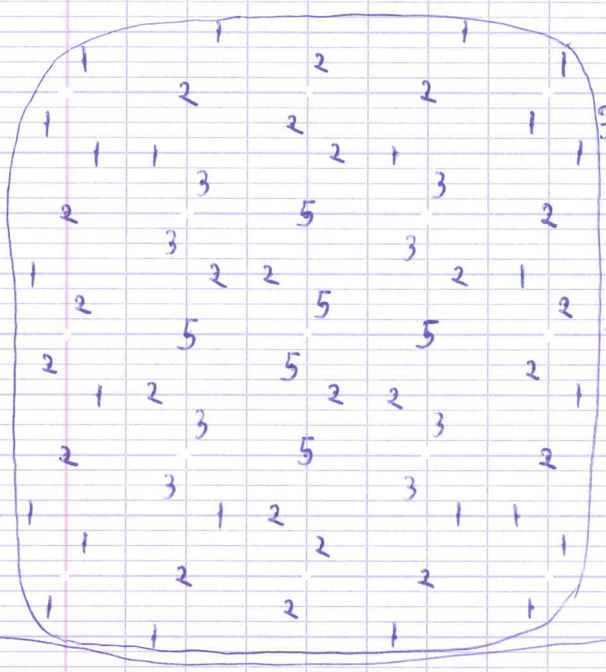
Total:



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

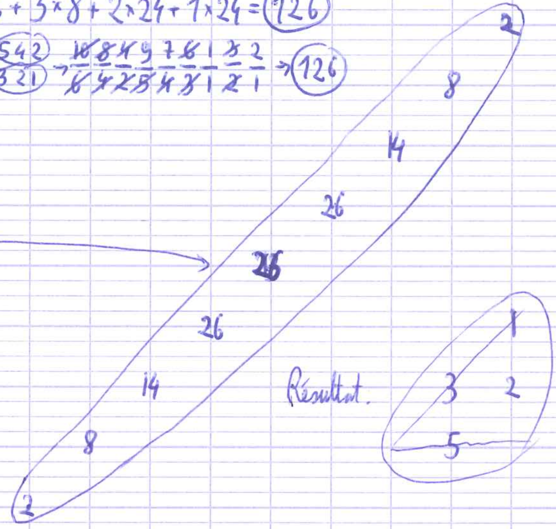
Formule de Weyl: $\frac{(5\,4\,1)}{(3\,2\,1)} \to \frac{10}{6}\frac{8}{4}\frac{2}{2}\frac{9}{5}\frac{6}{4}\frac{5}{3}\frac{1}{1}\frac{4}{2}\frac{3}{1} \to 90$

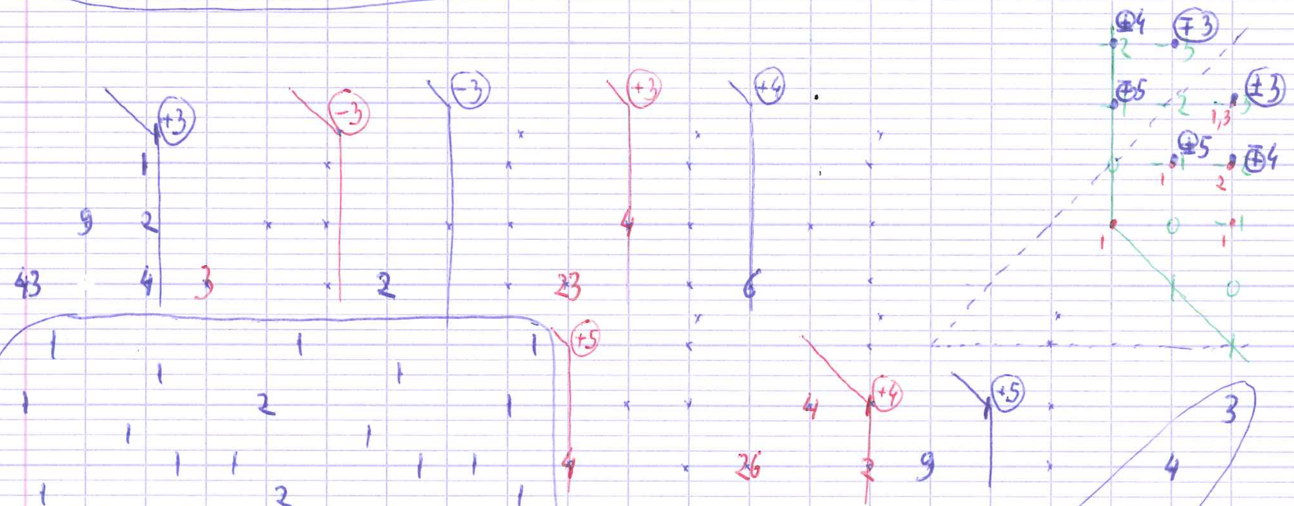


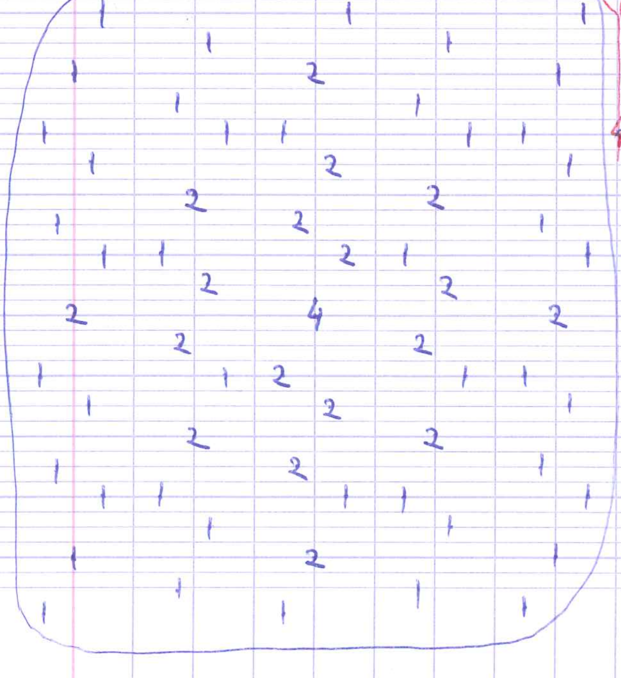


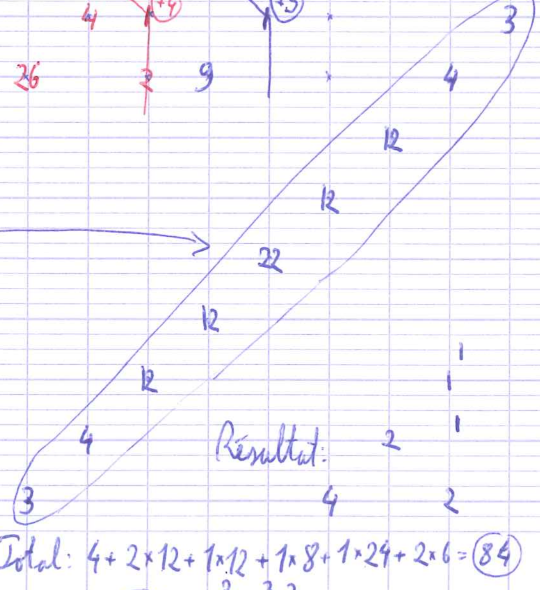
Total: $5\times 6 + 3\times 8 + 2\times 24 + 1\times 24 = 126$

Formule de Weyl: $\dfrac{5\,4\,2}{3\,2\,1} \rightarrow \dfrac{\cancel{10}}{\cancel{6}}\dfrac{\cancel{8}}{\cancel{4}}\dfrac{\cancel{4}}{\cancel{2}}\dfrac{9}{\cancel{3}}\dfrac{7}{\cancel{4}}\dfrac{\cancel{6}}{\cancel{3}}\dfrac{1}{1}\dfrac{\cancel{3}}{\cancel{2}}\dfrac{2}{1} \rightarrow 126$









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

Formule de Weyl: $\dfrac{5\,4\,3}{3\,2\,1} \rightarrow \dfrac{\cancel{10}}{\cancel{6}}\dfrac{\overset{2}{\cancel{8}}}{\cancel{4}}\dfrac{\cancel{6}}{\cancel{2}}\dfrac{\overset{3}{\cancel{8}}}{\cancel{8}}\dfrac{\overset{2}{\cancel{8}}}{\cancel{4}}\dfrac{7}{\cancel{3}}\dfrac{1}{\cancel{1}}\dfrac{\cancel{2}}{2}\dfrac{\cancel{1}}{1} \rightarrow 84$