

Exercice Full factorial 2^3 :

Chemists are trying to determine the tellurium (Te) content in seawater. But the nature and concentration of other metals distort the measurements. The content in tellurium can be either too high or too low depending on the other metals and their concentration. The disruptive metals could be sodium (Na), potassium (K) and calcium (Ca). The following runs were done to study this measure :

N ° essai	Na	K	Ca	y
1	-1	-1	-1	128
2	1	-1	-1	153
3	-1	1	-1	104
4	1	1	-1	130
5	-1	-1	1	86
6	1	-1	1	109
7	-1	1	1	66
8	1	1	1	96

Questions :

- Estimate the interactions nature.
- Calculate the effect of each factor.
- Write the mathematical model first order with interactions.
- Write the mathematical model first order without interactions.