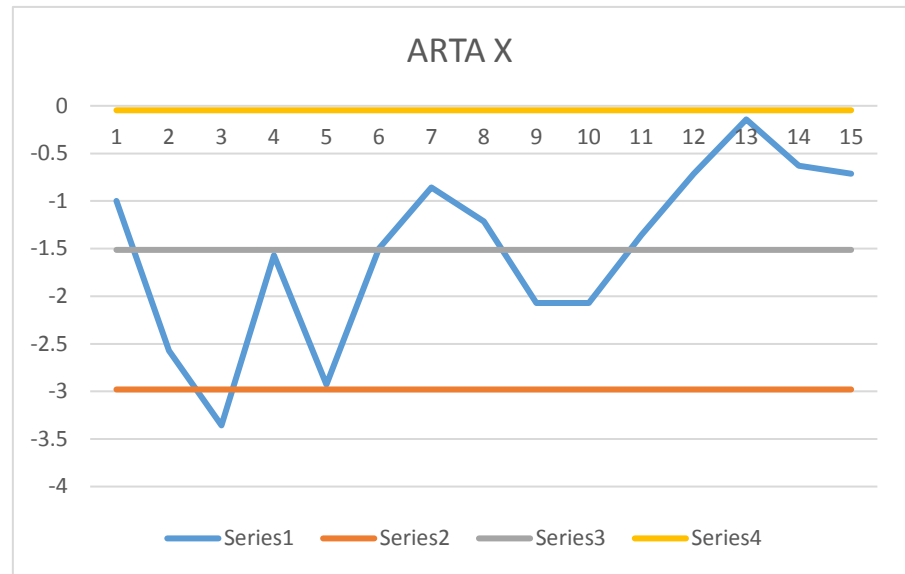


Fabrica de alimentos para ganado, hace muestreo para determinar el contenido de proteínas que tienen el cual debe de ser 30%

Dias	M1	M2	M3	M4	M5	M6	M7
1	29.5	28.5	28	30	28	30	29
2	28	27	27.5	26.5	26	27	30
3	27.5	26	26.5	27	27	25.5	27
4	28	30	28	31	29	28	25
5	27	26	27	27	26.5	26	30
6	29	29	30	28.5	27	28	28
7	30	28	31	28.5	29	28.5	29
8	31	27.5	29	28	30	29	27
9	29	28	30	27	28	27	26.5
10	27	28.5	27	29	27	28	29
11	29	29	27	29	30	28	28.5
12	32	30	31	29	28	29	26
13	28	30.5	29	29.5	31	31	30
14	29	29.6	31	30	29	28	29
15	27	30	28	31	30	29	30

Dias	X	LCL	X bar	UCL
1	-1	-2.97983	-1.51333	-0.04683
2	-2.57142857	-2.97983	-1.51333	-0.04683
3	-3.35714286	-2.97983	-1.51333	-0.04683
4	-1.57142857	-2.97983	-1.51333	-0.04683
5	-2.92857143	-2.97983	-1.51333	-0.04683
6	-1.5	-2.97983	-1.51333	-0.04683
7	-0.85714286	-2.97983	-1.51333	-0.04683
8	-1.21428571	-2.97983	-1.51333	-0.04683
9	-2.07142857	-2.97983	-1.51333	-0.04683
10	-2.07142857	-2.97983	-1.51333	-0.04683
11	-1.35714286	-2.97983	-1.51333	-0.04683
12	-0.71428571	-2.97983	-1.51333	-0.04683
13	-0.14285714	-2.97983	-1.51333	-0.04683
14	-0.62857143	-2.97983	-1.51333	-0.04683
15	-0.71428571	-2.97983	-1.51333	-0.04683



Dias	R	LCL	X bar	UCL
1	2	0.2653	3.5	6.7347
2	4	0.2653	3.5	6.7347
3	2	0.2653	3.5	6.7347
4	6	0.2653	3.5	6.7347
5	4	0.2653	3.5	6.7347
6	3	0.2653	3.5	6.7347
7	3	0.2653	3.5	6.7347
8	4	0.2653	3.5	6.7347
9	3.5	0.2653	3.5	6.7347
10	2	0.2653	3.5	6.7347
11	3	0.2653	3.5	6.7347
12	6	0.2653	3.5	6.7347
13	3	0.2653	3.5	6.7347
14	3	0.2653	3.5	6.7347
15	4	0.2653	3.5	6.7347

para ello se realiza un muestreo de 15 días y 7 muestras

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Días	M1	M2	M3	M4	M5	M6	M7	Media	Rango
1	-0.5	-1.5	-2	0	-2	0	-1	-1	2
2	-2	-3	-2.5	-3.5	-4	-3	0	-2.57142857	4
3	-2.5	-4	-3.5	-3	-3	-4.5	-3	-3.35714286	2
4	-2	0	-2	1	-1	-2	-5	-1.57142857	6
5	-3	-4	-3	-3	-3.5	-4	0	-2.92857143	4
6	-1	-1	0	-1.5	-3	-2	-2	-1.5	3
7	0	-2	1	-1.5	-1	-1.5	-1	-0.85714286	3
8	1	-2.5	-1	-2	0	-1	-3	-1.21428571	4
9	-1	-2	0	-3	-2	-3	-3.5	-2.07142857	3.5
10	-3	-1.5	-3	-1	-3	-2	-1	-2.07142857	2
11	-1	-1	-3	-1	0	-2	-1.5	-1.35714286	3
12	2	0	1	-1	-2	-1	-4	-0.71428571	6
13	-2	0.5	-1	-0.5	1	1	0	-0.14285714	3
14	-1	-0.4	1	0	-1	-2	-1	-0.62857143	3
15	-3	0	-2	1	0	-1	0	-0.71428571	4

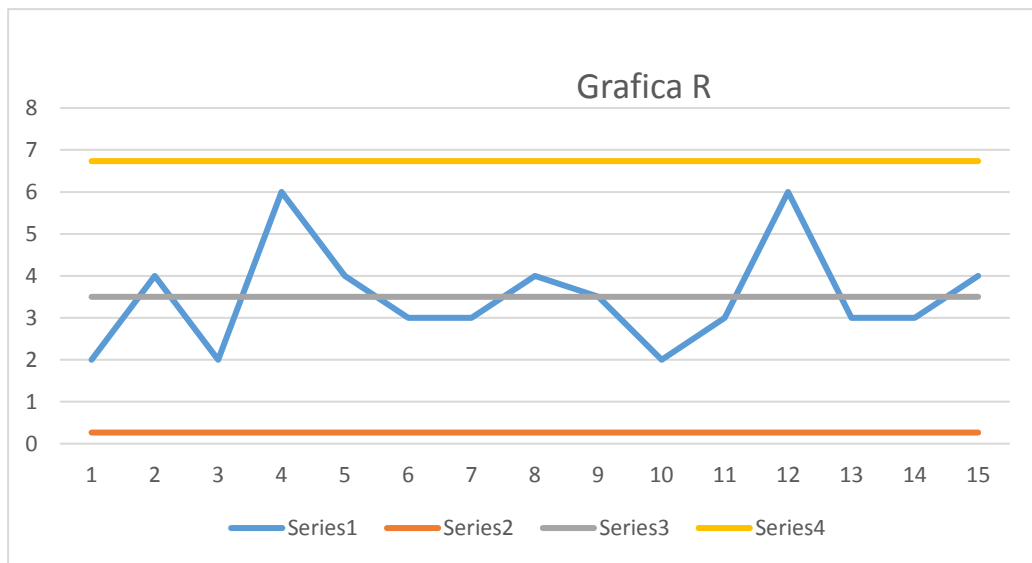
Max	Min
0	-2
0	-4
-2.5	-4.5
1	-5
0	-4
0	-3
1	-2
1	-3
0	-3.5
-1	-3
0	-3
2	-4
1	-2
1	-2
1	-3

-1.51333333 3.5

Carta X	
LCL	-2.97983
X	-1.51333
UCL	-0.04683

A2	D3	D4
0.419	0.0758	1.9242

Carta R	
LCL	0.2653
R	3.5
UCL	6.7347



X-BAR , R CHART	
\bar{x} Chart Control Limits	
$UCL = \bar{\bar{x}} + A_2 \bar{R}$	
$LCL = \bar{\bar{x}} - A_2 \bar{R}$	
R Chart Control Limits	
$UCL = D_4 \bar{R}$	
$LCL = D_3 \bar{R}$	