

İSTATİSTİKSEL KALİTE KONTROL ÖDEV SETİ- 1

Teslim tarihi:21.10.2008

Not: Ödevleri yapmak isteğe bağlıdır ve cevaplar elde hazırlanacaktır.

1. Control charts for \bar{X} and s are maintained on the breaking strength in pounds in a certain destructive test of a particular type of ceramic insulator used in vacuum tubes. The subgroup size is 15, $\sum \bar{X} = 1,307$ and $\sum s = 198.2$. Compute the values of the 3-sigma limits for the \bar{X} and s charts, and estimate the value of σ on the assumption that the process is in statistical control.
2. \bar{X} and R control charts are to be run to establish control over the manufacture of a drive shaft. After 30 groups have been drawn and inspected, and the diameters recorded, $\sum \bar{X} = 22.5150$ in and $\sum R = 0.1410$ in. the subgroup size is 5. Calculate the values of the central lines and control limits for the \bar{X} and R charts.
3. The data below are \bar{X} and R values for 24 samples of size $n=5$ taken from a process producing bearings. Set up \bar{X} and R control charts on this process. Does the process seem to be in statistical control? If necessary, revise the trial control limits.

Sample Number	\bar{X}	R	Sample Number	\bar{X}	R
1	34,5	3	13	35,4	8
2	34,2	4	14	34,0	6
3	31,6	4	15	37,1	5
4	31,5	4	16	34,9	7
5	35,0	5	17	33,5	4
6	34,1	6	18	31,7	3
7	32,6	4	19	34,0	8
8	33,8	3	20	35,1	4
9	34,8	7	21	33,7	2
10	33,6	8	22	32,8	1
11	31,9	3	23	33,5	3
12	38,6	9	24	34,2	2