

p chart Example

<u>Lot Identification</u>	<u>Sample Size (Varies)</u>	<u>Number Defective In the Sample (np)</u>	<u>Percentage Bad in each Sample</u>
1	1250	8	0.64 %
2	1250	0	0.00 %
3	1350	12	0.89 %
4	1200	3	0.25 %
5	1150	5	0.43 %
6	1100	0	0.00 %
7	1100	2	0.18 %
8	1350	2	0.15 %
9	1250	1	0.08 %
10	600	3	0.50 %
11	1150	0	0.00 %
12	1100	5	0.45 %
13	1050	10	0.95 %
14	1050	0	0.00 %
15	1100	0	0.00 %
16	1000	0	0.00 %
17	1200	0	0.00 %
18	1050	0	0.00 %
19	1150	1	0.09 %
20	1050	0	0.00 %
<u>k = no. of lots</u>	<u>Σn = 22,500</u>	<u>Σnp = 52</u>	<u>0.00 %</u>

K=20

$$\bar{n} = \frac{22,500}{20} = 1125 \quad \bar{p} = \frac{\text{total defective}}{\text{total inspected}} = \frac{52}{22,500} = 0.23 \%$$

The control limits are determined by the formulas:

$$UCL_p, LCL_p = \bar{p} \pm 3\sqrt{\frac{\bar{p}(100 - \bar{p})}{\bar{n}}}$$

$$UCL_p, LCL_p = 0.23\% \pm 3\sqrt{\frac{0.23\%(100\% - 0.23\%)}{1125}}$$

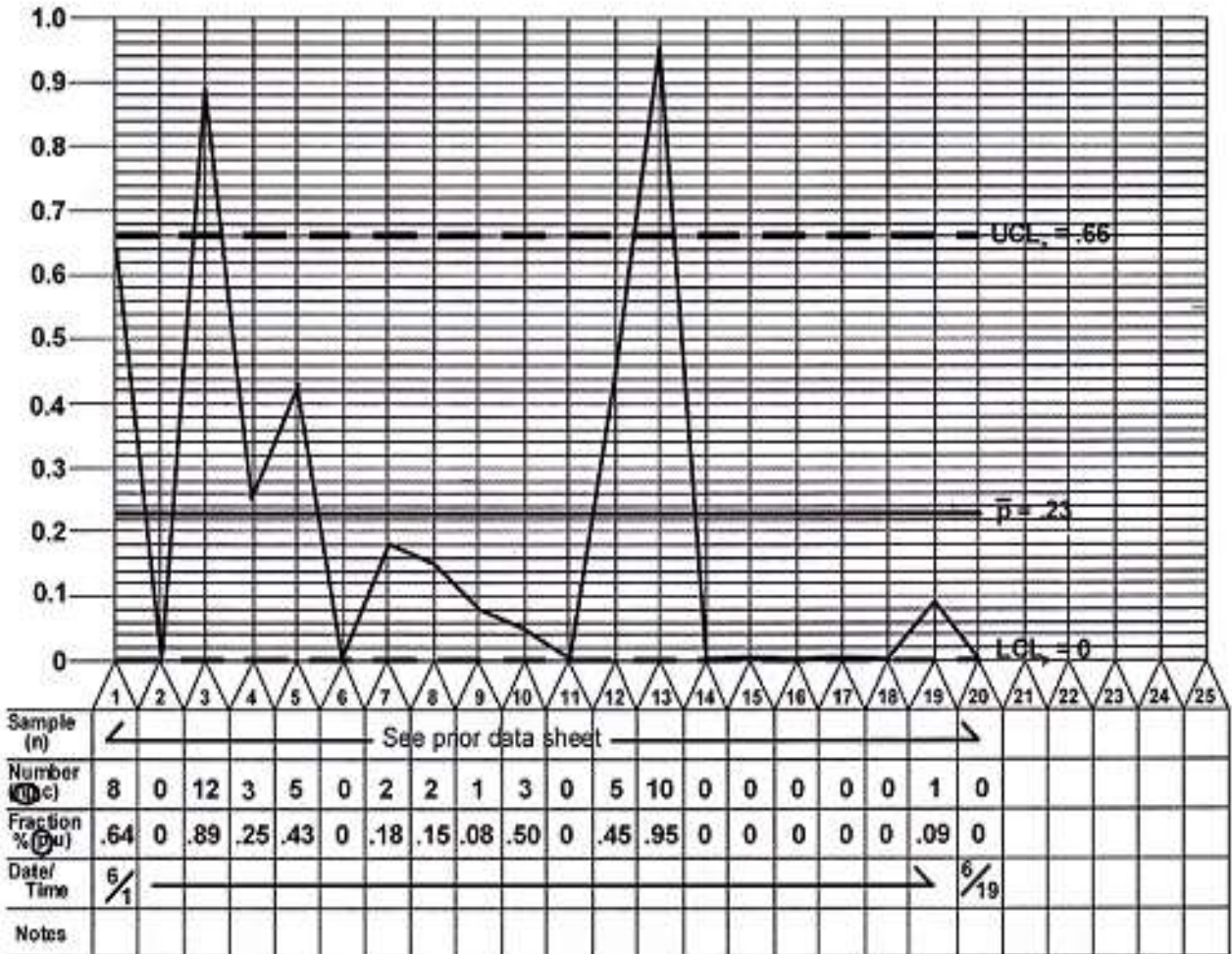
$$UCL_p, LCL_p = 0.23\% \pm (3)(0.143\%)$$

$$UCL_p = 0.66\% \quad LCL_p = -0.20\% = 0\%$$

Attributes Control Chart Form

p np c u

PART #: _____ DESCRIPTION: Uncoated Tablets CHARACTERISTIC: % Defectives DATE: 6/1 - 6/19
 SOURCE: Tablet Department OPERATOR: Various INSPECTOR: You
 UCL: 0.66 LCL: 0 AVERAGE: 0.23



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