

Run Rules Guidance – Table for Checking for Too Many or Too Few Runs on a Run Chart*

| Total number of data points on the run chart that do not fall on the median. | Lower limit for the number of runs (< than this number runs is 'too few') | Upper limit for the number of runs (> than this number runs is 'too many') |
|--|---|--|
| 10 | 3 | 9 |
| 11 | 3 | 10 |
| 12 | 3 | 11 |
| 13 | 4 | 11 |
| 14 | 4 | 12 |
| 15 | 5 | 12 |
| 16 | 5 | 13 |
| 17 | 5 | 13 |
| 18 | 6 | 14 |
| 19 | 6 | 15 |
| 20 | 6 | 16 |
| 21 | 7 | 16 |
| 22 | 7 | 17 |
| 23 | 7 | 17 |
| 24 | 8 | 18 |
| 25 | 8 | 18 |
| 26 | 9 | 19 |
| 27 | 10 | 19 |
| 28 | 10 | 20 |
| 29 | 10 | 20 |
| 30 | 11 | 21 |
| 31 | 11 | 22 |
| 32 | 11 | 23 |
| 33 | 12 | 23 |
| 34 | 12 | 24 |
| 35 | 12 | 24 |
| 36 | 13 | 25 |
| 37 | 13 | 25 |
| 38 | 14 | 26 |
| 39 | 14 | 26 |
| 40 | 15 | 27 |
| 41 | 15 | 27 |
| 42 | 16 | 28 |
| 43 | 16 | 28 |
| 44 | 17 | 29 |
| 45 | 17 | 30 |
| 46 | 17 | 31 |
| 47 | 18 | 31 |
| 48 | 18 | 32 |
| 49 | 19 | 32 |
| 50 | 19 | 33 |
| 51 | 20 | 33 |
| 52 | 20 | 34 |
| 53 | 21 | 34 |
| 54 | 21 | 35 |
| 55 | 22 | 35 |
| 56 | 22 | 35 |
| 57 | 23 | 36 |
| 58 | 23 | 37 |
| 59 | 24 | 38 |
| 60 | 24 | 38 |

*Table is based on about a 5% risk of failing the run test for random patterns of data.

Adapted from Swed FS, Eisenhart C. Tables for testing randomness of grouping in a sequence of alternatives. *Ann Math Stat* 1943;14:66-87. Retrieved from Perla, R. J., Provost, L.P., and Murray, S.K. (2014) The run chart: a simple analytical tool for learning from variation in healthcare processes. *BMJ Quality & Safety* 20:46-51.