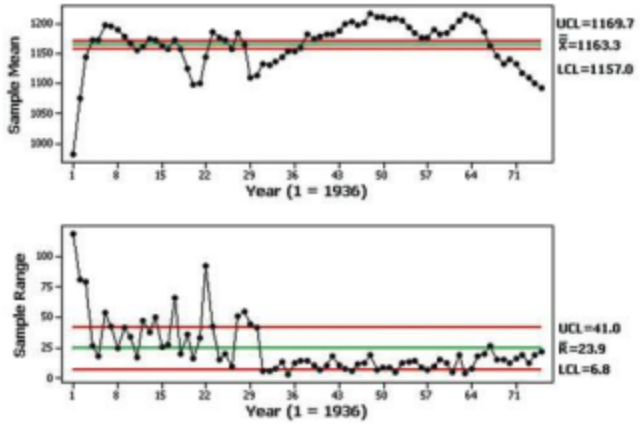
MINITAB



Pepsi Cans. ***In Exercises 5–8, refer to the axial loads (pounds) of aluminum Pepsi cans that are 0.0109 in. thick, as listed in Data Set 22 of Appendix B. An axial load of a can is the maximum weight supported by the side, and it is important to have an axial load high enough so that the can isn't crushed when the top lid is pressed onto the top. There are seven measurements from each of 25 days of production.***

5. Cola Cans: Notation After finding the sample mean and sample range for each of the 25 days, find the values of $\bar{\bar{x}}$ and $\bar{R}$. Also find the values of LCL and UCL for an R chart, then find the values of LCL and UCL for an $\bar{x}$ chart.

6. Cola Cans: Run Chart Treat the 175 axial loads as a string of consecutive measurements and construct a run chart. What does the result suggest?

7. Cola Cans: *R* Chart Treat the seven measurements from each day as a sample and construct an R chart. What does the result suggest?

8. Cola Cans: $\bar{x}$ Chart Treat the seven measurements from each day as a sample and construct an $\bar{x}$ chart. What does the result suggest?

Global Warming. ***In Exercises 9–12, refer to the following annual temperatures (°C) of the earth for each of the past 50 years. The last two columns list statistics for the five different decades.***

											$\bar{x}$	Range
1960s	13.98	14.10	14.05	14.03	13.65	13.75	13.93	13.98	13.91	14.00	13.938	0.450
1970s	14.04	13.90	13.95	14.18	13.94	13.98	13.79	14.16	14.07	14.13	14.014	0.390
1980s	14.27	14.40	14.10	14.34	14.16	14.13	14.19	14.35	14.42	14.28	14.264	0.320
1990s	14.49	14.44	14.16	14.18	14.31	14.47	14.36	14.40	14.71	14.44	14.396	0.550
2000s	14.41	14.56	14.70	14.64	14.60	14.77	14.64	14.66	14.68	14.70	14.636	0.360

9. Global Warming: Notation Find the values of $\bar{\bar{x}}$ and $\bar{R}$. Also find the values of LCL and UCL for an R chart, then find the values of LCL and UCL for an $\bar{x}$ chart.

10. Global Warming: *R* Chart Treat the 10 measurements from each decade as a sample and construct an R chart. What does the result suggest?

11. Global Warming: $\bar{x}$ Chart Treat the 10 measurements from each decade as a sample and construct an $\bar{x}$ chart. What does the result suggest?

12. Global Warming: Run Chart Treat the the 50 consecutive measurements from the 50 years as individual values and construct a run chart. What does the result suggest?