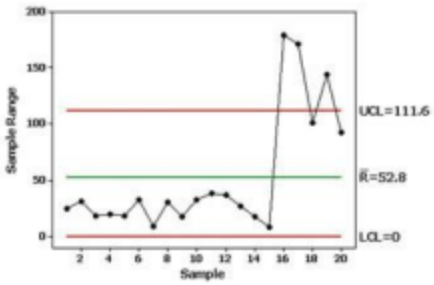
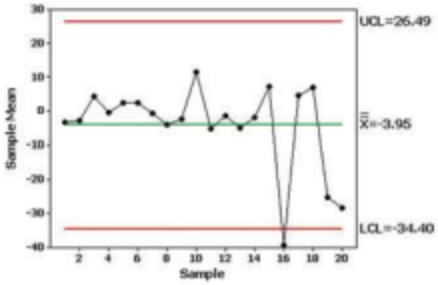
In Exercises 5–8, use the following two control charts that result from testing newly manufactured aircraft altimeters. The original sample values are errors (in feet) obtained when the altimeters are tested in a pressure chamber that simulates an altitude of 1000 ft.





5. Is the process variation within statistical control? Why or why not?

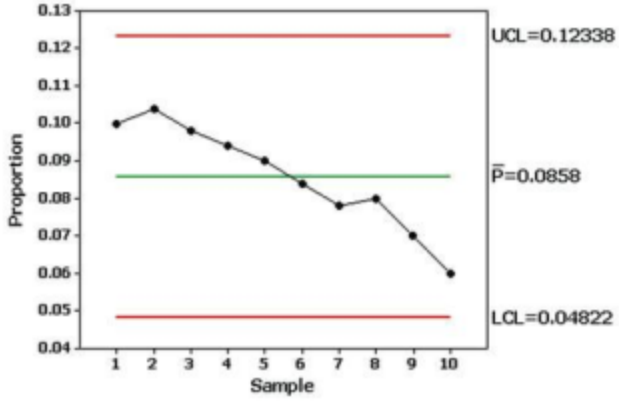
6. What is the value of $\overline{R}$? In general, how is a value of $\overline{R}$ obtained?

7. Is the process mean within statistical control? Why or why not?

8. What is the value of $\overline{\overline{x}}$? In general, how is a value of $\overline{\overline{x}}$ found?

9. What is a p chart?

10. Examine the following p chart for defective car batteries and briefly describe the action that should be taken.



Review Exercises

Energy Consumption. ***Exercises 1–5 refer to the amounts of energy consumed in the author's home. Each value represents energy consumed (kWh) in a two-month period. Let each subgroup consist of the six amounts within the same year.***

Year 1	3637	2888	2359	3704	3432	2446
Year 2	4463	2482	2762	2288	2423	2483
Year 3	3375	2661	2073	2579	2858	2296
Year 4	2812	2433	2266	3128	3286	2749
Year 5	3427	578	3792	3348	2937	2774
Year 6	3016	2458	2395	3249	3003	2118
Year 7	4261	1946	2063	4081	1919	2360
Year 8	2853	2174	2370	3480	2710	2327