1. In a market test of a new chocolate raspberry coffee, a poll of 400 people from Dobbs Ferry showed 250 preferred the new coffee. In Irvington, 170 out of 350 people preferred the new coffee. To test the hypothesis that there is no difference in preferences between the two villages, what is the alternate hypothesis?
2. H1: p1 < p2
3. H1: p1 > p2
4. H1: p1 = p2
5. H1: p1 ¹p2
6. The regression equation is Ŷ = 29.29 - 0.96X, the sample size is 8, and the standard error of the slope is 0.22. What is the test statistic to test the significance of the slope?
7. z = -4.364
8. z = 4.364
9. t = -4.364
10. t = -0.96
11. Which condition must be met to conduct a test for the difference in two sample means using a z-statistic?
12. Data must be at least of nominal scale
13. Populations must be normal
14. Standard deviations of the two populations must be known
15. Samples are dependent
16. What chart helps to identify the relatively few factors that impact the performance of a manufacturing or service process?
17. SPC
18. Pareto analysis
19. Fishbone chart analysis
20. Diagnostic chart
21. Using a 5% level of significance and a sample size of 25, what is the critical value for a one-tailed hypothesis test?
22. 1.708
23. 1.711
24. 2.060
25. 2.064
26. Assuming the population variances are known, the population variance of the difference between two sample means is
27. The sums of the two means
28. The sum of the variances for each population
29. The sum of the standard deviations for each population
30. The sum of the sample sizes for each population
31. Which of the following can be used to test the hypothesis that two nominal variables are related?
32. A contingency table
33. A chi-square table
34. An ANOVA table
35. A scatter diagram

Homework help:

Refer to Buena School District bus data.

1. Find the median maintenance cost and the median age of the buses. Organize the data into a two-by-two contingency table, with buses above and below the median of each variable. Determine whether the age of the bus is related to the amount of the maintenance cost. Use the .05 significance level.
2. Is there a relationship between the maintenance costs and the manufacturer of the bus? Use the breakdown in part (a) for the buses above and below the median maintenance costs and the bus manufacturers to create a contingency table. Use the .05 significance level.
3. Use statistical software and the .05 significance level to determine whether it is reasonable to assume that the distributions age of the bus, maintenance cost, and mile traveled last month follow a normal distribution.