Friday, October 28, 2005 - Answers

1. a. systematic sample
2. b. 25.5%
3. b. About 75% of the teacher salaries in the "26 to 31" group are below $30,000
4. a. 20 pounds or less
5. d. P(10) = 4/36.
6. b. $232
7. c. 0.0956
8. a. 0.02
9. c. heart disease
10. b. 41
11. d. The other will never occur
12. c. 0.25
13. c. 1/4
14. c. 0.447
15. c. {GGG, GGB, GBG, GBB, BGG, BGB, BBG, BBB}
16. c. 0.15
17. b. 89.5%
18. d. A sample mean is a biased estimator of a population mean.
19. c. 43.2 years
20. d. Histogram D

21. (i) mean = n*p = 40*0.12 = 4.8 (ii) variance = n*p*(1-p) = 40*0.12*0.88 = 4.224
22. (i) 44-25 = 19 (ii) 77-70 = 7
23. 32.7/74.8 = 0.437
24. (67+67+57+57+57+61+9999)/7 = 1480.71 -- yes, very far off
25. (i) expected = n*p = 60*.10 = 6
    (ii) use: Graphing Binomial Calculator
    set: n = 60, p = 0.10
    determine: Prob. X is "at most" 10 = 0.9658
26. (26/6)/(13/34) = 11.33
27. (2/45)/(9/40) = 0.20
28. (75-70)/3 = 1.67
29. approx 63.9 +/- 2*7 = (i) approx 49.9 and (ii) approx 77.9
30. use: Graphing Normal z-Score/Probability Calculator
    set: mean = 10.38, std dev = 1.40
    determine: Area left of 11.8 = 0.8448; Area left of 9.0 = 0.1621
    Area between 9.0 and 11.8 = 0.8448 - 0.1621 = 0.6827
31. 25.6 - 25.2 = 0.4
32. SE = 3/sqrt(36) = 0.5
33. use: Graphing Normal z-Score/Probability Calculator
    set: mean = 0.40, std dev = 0.490/sqrt(400) = 0.0245
    determine: Area left of 0.44 = 0.9487; Area left of 0.36 = 0.0513
    Area between 0.36 and 0.44 = 0.9487 - 0.0513 = 0.8974
34. use: Graphing chi-Square Calculator
    set: degrees of freedom = 7
    determine: Area right of 5 = 0.66
35. (39*32)/79 = 15.80 [Not graded]