Thursday, October 27, 2005 - Answers

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

21. (26/6)/(13/34) = 11.33
22. (2/45)/(9/40) = 0.20
23. (74-70)/3 = 1.33
24. approx 63.9 +/- 2*8 = (i) approx 47.9 and (ii) approx 79.9
25. use: Graphing Normal z-Score/Probability Calculator
    set: mean = 10.38, std dev = 1.40
    determine: Area left of 11.4 = 0.7669; Area left of 9.4 = 0.2420
    Area between 9.4 and 11.4 = 0.7669 - 0.2420 = 0.5249
26. 26.5-25.2 = 1.3
27. SE = 3/sqrt(25) = 0.6
28. use: Graphing Normal z-Score/Probability Calculator
    set: mean = 0.40, std dev = 0.490/sqrt(400) = 0.0245
    determine: Area left of 0.43 = 0.8896; Area left of 0.37 = 0.1103
    Area between 0.37 and 0.43 = 0.8896 - 0.1103 = 0.7793
29. use: Graphing chi-Square Calculator
    set: degrees of freedom = 5
    determine: Area right of 7 = 0.2206
30. (39*47)/79 = 23.20 [Not graded]
31. (i) mean = n*p = 40*0.1 = 4 (ii) variance = n*p*(1-p) = 40*0.1*0.9 = 3.6
32. (i) 42-25 = 17 (ii) 78-70 = 8
33. 32.7/74.8 = 0.437
34. (67+67+57+57+57+61+9999)/7 = 1480.71 -- yes, very far off
35. (i) expected = n*p = 60*.15 = 9
    (ii) use: Graphing Binomial Calculator
    set: n = 60, p = 0.15
    determine: Prob. X is "at most" 12 = 0.8938