Solutions, Statistics Waiver Exam

This key describes exam “a”. For B, increment the letters by 1 (e.g., D becomes E and E becomes A). For C, increment the letters by 2.

1. A
2. A
3. C
4. B
5. C
6. D The SE of the average is 0.05/5 = 0.01
7. E
8. C
9. B
10. E
11. C
12. C
13. E
14. A
15. B
16. E
17. A Estimated intercept
18. C Twice the slope is 2\*2349
19. A The estimated slope is less than 2 standard errors from the claim.
20. D (data-fit)/RMSE = (21000-(22390-2\*2349))/3255 ≈ 1
21. C
22. B
23. D
24. E
25. E
26. \* Not scored; all received credit
27. A 23.86+27.513\*4
28. B E.g., 23.86+6\*27.513≈$189 vs. (23.86+19.36)+(27.513-9.748)\*6≈$150
29. D
30. B
31. A exp(*b*0+*b*1\*(q+1))/exp(*b*0 +*b*1\*q) = exp(*b*1) ≈ 1+*b*1
32. E exp(5.8283+0.090567\*41 ± 2\*.79878) ≈ 2818.576 to 68810.182
33. C
34. D
35. A
36. E [(162.409-16.028)+2105.522/3000+(12.28-9.275)\*3+(1.515-1.989)\*1]\*3000
37. C
38. B 1.505-1.097 > 0
39. A
40. C sqrt(0.85) ≈ 0.92
41. B
42. D
43. A
44. E