AP Statistics

Ch 4-1 Review: Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. Suppose a straight line is fit to data and having response variable y and explanatory variable x. Predicting the values of y for values of x outside the range of the observed data is called:
2. Correlation
3. Causation
4. Extrapolation
5. Sampling
6. None of the above
7. Suppose that the scatterplot of (x, log y) produces a correlation close to 1. Which of the following is true?
8. The correlation between the variables x and y will also be close to 1
9. The residual plot of y on x will show a clearly curved pattern of points
10. The difference between consecutive values of y for equal x-intervals is approximately constant.
11. I and II only
12. I and III only
13. II and III only
14. I, II, and III only
15. None of the above
16. If a function is monotonic increasing:
17. It cannot be transformed into a linear equation
18. As x increases, y always increases.
19. As x increases, y always decreases.
20. There is no relationship between x and y
21. None of the above
22. In order to transform y = 1.2 x  to a linear pattern, use:
23. (x, y)
24. (log x, y)
25. (x, log y)
26. (log x, log y)
27. None of the above
28. In order to transform y = x 6 into a linear pattern, use:
29. (x, y)
30. (log x, y)
31. (x, log y)
32. (log x, log y)
33. None of the above
34. If a linear transformation gives the equation: log = 1.2 + 0.7 x, then equation transformed back is:
35. 1.2 (x) 0.7
36. 15.85 x0.7
37. 15.85 (0.7)x
38. 1.2 + (0.7) x
39. 15.85 (5.01) x
40. Equations that have a common ratio are:
41. Exponential
42. Linear
43. Power
44. All of the above
45. None of the above
46. Correlation and regressions can only be used to describe \_\_\_\_\_\_ relationships.
47. Exponential
48. Linear
49. Power
50. All of the above
51. None of the above
52. If the graph of the ordered pairs (x, y) is exponential, what type of graph is (x, log y)?
53. Exponential
54. Linear
55. Logarithmic
56. Power
57. None of the above
58. The residual plot of (x, log y) and (log x, log y) are both randomly scattered. The correlation of the LSRL of (x, log y) is 0.98 and the correlation of the LSRL of (log x, log y) is 0.95. What is the best model based on this information?
59. Exponential
60. Linear
61. Logarithmic
62. Power
63. None of the above
64. The regression of (x, log y) gives: log = 0.15 + 0.29 x. Based on the model, find the predicted value for y when x is 5.
65. 1.6
66. 2.25
67. 29.59
68. 39.81
69. None of these
70. A LSRL of (log x, log y) gives: log = 0.113 – 0.413 log x. Based on the model, find the predicted value for y when x = 3.
71. – 0.94
72. 0.824
73. 0.075
74. 0.94
75. None of these
76. The transformation of log y ̂ = 2.35 + 1.5 log x is:
77. = 223.87 x1.5
78. = 223.87 (31.6) x
79. = 223.87 (1.50) x
80. = 223.87 x 31.6
81. None of these