

QUIZ 5

- The following information was obtained from the manager of a city water department for predicting the consumption of water (in gallons) from the size of household: household size (x) versus water used (y), 10 observations, here are the summary statistics: $\sum X = 57$; $\sum Y = 10038$; $\sum X^2 = 433$; $\sum Y^2 = 11641474$; $\sum XY = 67669$. What is the equation of the regression line?
 - $Y = 452.65 + 96.69 * x$
 - $Y = 96.69 + 452.65 * x$
 - $Y = 113.00 + 156.28 * x$
 - $Y = 156.28 + 113.00 * x$
 - None of the above
- In the context of the previous problem, what is the value of the determination coefficient?
 - 0.52
 - 0.65
 - 0.80
 - 0.89
 - None of the above
- In the previous problem, what is the estimate for the standard error of the regression slope?
 - 11.4
 - 18.6
 - 25.3
 - 52.6
 - None of the above
- Suppose that we have grown one bacterium in broth culture at 3 different pH levels at 4 different temperatures. We have 12 flasks in all, but no replicates. In 1-way ANOVA, when testing whether the growth rate depends on the temperature, what is the value of F-statistic and the respective critical value at 5% significance level?

Temp °C	pH 5.5	pH 6.5	pH 7.5
25	10	19	40
30	15	25	45
35	20	30	55
40	15	22	40

- 0.124, 4.07
 - 0.124, 8.85
 - 0.331, 4.07
 - 0.331, 8.85
 - None of the above
- In the previous problem, what are the respective values of the F-statistic in 2-way ANOVA?
 - 17.46, 208.10
 - 8.74, 69.45
 - 11.25, 48.11
 - 0.124, 112.1
 - None of the above