

Q) A random sample of 100 products containing 25 defective items. Standard error of proportion is _____ --> **0.0433**

Q) Probability of type I error called _____ --> **Level of significance**

Q) Whether a test is one-sided or two-sided depends on _____ hypothesis --> **Alternative hypothesis**

Q) A hypothesis test whose alternative hypothesis has the form $H_1: \mu < \mu_0$ --> **Left-tailed test**

Q) A hypothesis test whose alternative hypothesis has the form $H_1: \mu \neq \mu_0$ --> **two-tailed test**

Q) In a sample of 325 men out of 600 men were found to be smokers. The test of statistic $|Z|$ --> **3.2**

Q) When null hypothesis is accepted, then the result is said to be _____ --> **Non-Significant**

Q) When null hypothesis is rejected, then the result is said to be _____ --> **Significant**

Q) A hypothesis test whose alternative hypothesis has the form $H_1: \mu > \mu_0$ --> **Right-tailed test**

Q) The mean of all possible sample proportions is equal to the _____ --> **population proportion**

Q) The range of χ^2 variate is --> **0 to ∞**

Q) In a t-distribution sample of size is n, then the degree of freedom is _____ --> **n-1**

Q) Chi-square distribution is _____ --> **multinomial**

Q) The shape of t-distribution is similar to _____ --> **normal**

Q) $F_{1-\alpha}(v_1, v_2) =$ _____ --> **$1/F_{\alpha}(v_2, v_1)$**

Q) t-test on two samples of sizes n_1 and n_2 for testing the equality of two normal population means when the population have same variance has degree of freedom equal to _____ --> **n_1+n_2-2**

Q) Range of F-distribution is _____ --> **0 to ∞**

Q) The two sample test can not be used if --> **$\sigma_1 \neq \sigma_2$**

Q) In a goodness-of-fit test, the degrees of freedom for a series of k numbers is _____ --> **k-1**

Q) For a one-way ANOVA with k treatments and n observations in all samples taken together, the number of degrees of freedom for the denominator are _____ --> **n-k**

Q) The ANOVA test can be applied to compare _____ --> **three or more populations**

Q) A machinist is making engine parts with axle diameter of 0.700 cm. A random sample of 10 parts shows a mean diameter of 0.742 cm with a standard deviation of 0.040 cm then the value of t is --> **3.15**

Q) The t-test is applicable to sample for which n is _____ --> **n < 30**

Q) If two regression coefficients are 0.8 and 0.2 then $P =$ --> **0.4**

Q) When two regression lines coincide then $r =$ _____ --> **1**

Q) The smallest level of significance at which null hypothesis is rejected is called _____ --> **α**

Q) The F-distribution always _____ --> **skewed to right**

Q) A χ^2 curve is _____ skewed --> **right**

Q) The given two regression lines are $x+2y-5=0$ and $2x+3y-8=0$, mean of x and y is --> **(1,2)**

Q) A student produces a correlation of +1.3. This is --> **An impossible correlation**

Q) The geometrical mean of two regression coefficients is _____ --> **Correlation**

Q) If the variables x and y are independent then the angle between the two lines of regression is _____ --> **$\frac{\pi}{2}$**

Q) If the coefficients of correlations are 0.4 and 0.9 then the correlation is _____ --> **0.6**

Q)The two regression equations are $2y-x-50=0$ and $3y-2x-10=0$ then mean values of X and Y are \rightarrow **(130, 90)**

Q)The two lines of regression $3x-4y+8=0$ and $4x-3y=1$, the means of x and y are \rightarrow **(4,5)**

Q)The Coefficient of Correlation = $\rightarrow \sqrt{b_{yx} \cdot b_{xy}}$

Q)If one regression coefficient is positive and another regression line is \rightarrow **Positive**

Q)The limits for Coefficient of Correlation are \rightarrow **(-1, 1)**

Q) $y = A+Bx+Cx^2$ is the equation of \rightarrow **PARABOLA**

Q)If $\rho = 0 \rightarrow$ **INDEPENDENT**

Q)If $y = mx+4$ and $x = 4y+5$ are regression lines of y on x and x on y, then m lies between the values \rightarrow **0 AND 0.25**

Q)In a regression problem, if the Coefficient of Determination is 0.95, this means that \rightarrow **95% of the variation in y can be explained by the variation in x.**

Q)Why is it important to plot a scatter graph before calculating a correlation coefficient for a large data set. \rightarrow **to ensure the plots are roughly linear**

Q)The Coefficient of Correlation is independent of \rightarrow **Both scale and origin**

Q)The point of intersection of two regression lines is \rightarrow (\bar{x}, \bar{y})

Q)The correlation between the two variables is unity, there is \rightarrow **Perfect positive**

Q)The arithmetic mean of the regression coefficients is \rightarrow **> r**

Q)If $r = 0.5$ and $N = 50$ probable error of the Coefficient of Correlation is \rightarrow **0.07**

Q)The regression lines x on y and y on x are $x = 0.854y$ and $y = 0.89x$, $r_x \rightarrow$ **0.87**

Q)If all the points in a scatter diagram lie on the least squares regression line, then the Coefficient of Correlation must be \rightarrow **either 1 or -1**

Q)The units of Correlation Coefficients \rightarrow **No units**

Q)The range of regression coefficient is \rightarrow $(-\infty, \infty)$

Q)The symbol for the Correlation Coefficient is \rightarrow **r**

Q)If two variables are absolutely independent of each other the correlation between them must be \rightarrow **0**

Q)When you are correlating two interval variables you can use \rightarrow **the Pearson Coefficient**

Q)Correlation refers to \rightarrow **The Association Between two variables**

Q)The relationship between correlation and coefficient is that \rightarrow **The Coefficient of Determination is the Coefficient of Correlation squared**

Q)The Spearman Correlation is used with \rightarrow **ordinal data**

Q)In the equation of a straight line, $Y = mX + C$, if m is equal to -1 then \rightarrow **There is a negative relationship between the two variables**

Q)In the equation of a straight line, $Y = mX + C$ the term, m is the \rightarrow **Slope**

Q)Regression Analysis: \rightarrow **Establishes a relationship between two variables**

Q)In calculating r with raw scores, the numerator of r represents \rightarrow **the Covariance of X and Y**

Q)If Spearman's Coefficient of Rank Correlation is equal to one, then \rightarrow **The rankings of the two variables totally agree**

Q)Which of the following would not allow you to calculate a correlation? \rightarrow **A Curvilinear**

relationship Between X And Y

Q)A Correlation Coefficient of -0.95 means there is A **Strong negative Correlation** Between the two variables-->

Q)In the equation of a straight line, $Y = mX + C$, if C is equal to zero then **The line of Best fit passes through the origin.**

Q)In the equation of a straight line, $Y = mX + C$, if m is equal to zero then when **X increases Y remains constant**

Q) r^2 is the mathematical notation for **The Co-efficient of Determination**

Q)If the slope of the regression line is calculated to be 2.5 and the intercept 16 then the value of Y when X is 4 is: **26**

Q)In a Control Chart central line indicates **Avg quality process**

Q)If $Y = -2X + 3$, then $Cov(X, Y) = -2Var(X)$

Q)Which of the following indicates the strongest relationship? **$r = -0.6$**

Q)If $Cov(X, Y) = 6.857$, $\sigma_x = 2.258$, $\sigma_y = 3.38$ then $r = 0.898$

Q)In mean - chart $LCL(\bar{X}) = \mu - \frac{3\sigma}{\sqrt{n}}$

Q)Control Chart contains **horizontal** lines

Q)The Correlation Coefficient Between two random variables X and Y is $r = 0.6$. If $\sigma_x = 1.5$, $\sigma_y = 2$, $\bar{X} = 10$, $\bar{Y} = 20$ then the regression line of X on Y is **$X = 0.45Y + 1$**

Q)Central line $\bar{x} = 37.75$, $\bar{R} = 18$, $A_2 = 1.023$, $\bar{x} \rightarrow 19.335$

Q)For C-chart lower Control Chart $LCL = \bar{c} - 3\sqrt{\bar{c}}$

Q)For C-chart upper Control limit $UCL = \bar{c} + 3\sqrt{\bar{c}}$

Q)Central line $\bar{x} = 37.75$, $\bar{R} = 18$, $A_2 = 1.023$, $\bar{x} \rightarrow 56.16$

Q)The Correlation Coefficient Between two random variables X and Y is $r = 0.6$. If $\sigma_x = 1.5$, $\sigma_y = 2$, $\bar{X} = 10$, $\bar{Y} = 20$ then the regression equation of Y on X is **$Y = 0.8X + 12$**

Q)If $y = a + bx + cx^2$ then in the normal equation $\sum x_i^2 y_i = a \sum x_i^2 + b \sum x_i^3 + c \sum x_i^4$

Q)If $y = a + bx^2$ then in the normal equation $\sum x_i^2 y_i = a \sum x_i^2 + b \sum x_i^4$

Q)For a process, the mean $m = 64.5$ and the standard deviation $s = 1.2$. If the sample size 4 is provided, find the UCL for an \bar{X} chart. **66.3**

Q)A process is said to be out of control if **either of the above**.

Q)For a process, the mean $m = 64.5$ and the standard deviation $s = 1.2$. If the sample size 4 is provided, find the LCL for an \bar{X} chart. **62.7**

Q)p-chart is based on the **Binomial Distribution**