

Linear Regression Worksheet Hair Growth and Temperature

- Dependent Variable (Y) _____ Independent Var (X) _____
- Regression Model: $Y =$
- $\bar{Y} =$ $\bar{X} =$
- $\sum(X - \bar{X})^2 =$ $\sum(X - \bar{X})(Y - \bar{Y}) =$ $\sum(Y - \bar{Y})^2 =$
- $b =$ $a =$ $\hat{Y} =$
- Month 1: Fitted value = Residual =
- Error sum of squares $\sum(Y - \hat{Y})^2 =$
- Conditional Std. Dev. $\hat{\sigma} =$
- Correlation Coefficient $r =$
- Proportion of Variation in Y explained by X: $r^2 =$
- Std Error of b: $\hat{\sigma}_b = \frac{\hat{\sigma}}{\sqrt{\sum(X - \bar{X})^2}} =$
- t-stat for testing $H_0: \beta=0$ vs $H_A: \beta \neq 0$:
- Critical Value ($\alpha=0.05$)
- 95% CI for β :
- ANOVA: TSS= SSE= SSR=
- ANOVA: MSR= MSE= $F_{obs} =$ $F_{.05,1,n-2} =$
- T-stat for testing $H_0: \rho=0$ vs $H_A: \rho \neq 0$: