

Exam 4 Theory

- There are 3 possible relationships between variables X and Y
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- There are 2 models to know:
 - Population Linear Model – _____
 - Linear Regression Model – _____
 - This is what we are calculating/working with
- Model notations:
 - _____ & _____ =
 - _____ & _____ =
 - _____ =
 - _____ =
 - _____ =
- The smaller the _____ is, the better the linear regression line fit is.
- Coefficient of Correlation (_____)
 - The strength of R is determined by how close R is to the extremes _____ & _____
 - Guide for Interpretation (Memorize)
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 - The _____ shares the same sign (____/____) with _____

- Coefficient of Determination (_____)
 - This number is always between ____ & ____
- An _____ is an observation that affects the regression equation when included versus when it is not
- Calculator Tricks
 - Those included in formula sheet
 - LinRegTTest
 - Those not included in formula sheet
 - Scatter Plots
 - Make your scatter plot
 - Zoom in to your plot
 - LinReg(a+bx)
- Formulas
 - Those included in formula sheet
 - Both models from above
 - Estimated Slope
 - Estimated Vertical Intercept
 - Coefficient of Correlation
 - Error
 - Those not included in formula sheet
 - Sum of Squares Error
 - Coefficient of Determination

- Standardized Residual Plot Point

- Hypotheses and Interpretations

- Null states _____ & the alternative states _____

- Coefficient of Correlation interpretation is a

- Example:

- Coefficient of Determination interpretation:

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- Reading the graphs

- We look at the _____ and not the _____ to see if there is an influential point

- Can only tell if a trend is linear, non-linear, or has no relationship & whether it is positive or negative without more information (like R)

- When there is a boundary, the dots outside that boundary are _____ because they lie beyond ____ standard deviations from the trend line