# Properties of Regression

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**P.1:** The OLS estimators $B_0$ and $B_1$ are correct (i.e., the equations for them produce the correct OLS estimates).

**P.2:** The OLS line passes through the point $(\bar{x}, \bar{y})$.

**P.3:** The sum and average value of the OLS residuals is zero.

**P.4:** The OLS residuals are uncorrelated with $X$.

**P.5:** The OLS residuals are uncorrelated with the fitted values.

**P.6:** The OLS estimators are linear functions of the observations.

**P.7:** The OLS estimators are unbiased estimators of the population coefficients.

**P.8:** The sampling variances and a covariance for the OLS estimators are correct (i.e., the formulas are correct).

**P.9:** The OLS estimators are the most efficient of all the linear, unbiased estimator

**P.10:** The sampling distribution for the OLS estimators are normally distributed (or approximately normal).

**P.11:** The OLS estimators are also the maximum-likelihood estimators of the population coefficients.