PROOF OF CALIBRATION

File: **https://www.kaggle.com/datasets/mehmetisik/advertisingcsv/data**

Best Linear Unbiased Estimator (BLUE)

1. Normality

One-Sample Kolmogorov-Smirnov Test

			Unstandardized Residual
N			200
Normal Parameters[a,b]	Mean		.0000000
	Std. Deviation		1.67275727
Most Extreme Differences	Absolute		.132
	Positive		.062
	Negative		-.132
Test Statistic			.132
Asymp. Sig. (2-tailed)[c]			<,001
Monte Carlo Sig. (2-tailed)[d]	Sig.		.000
	99% Confidence Interval	Lower Bound	.000
		Upper Bound	.000

a. Test distribution is Normal.

b. Calculated from data.

c. Lilliefors Significance Correction.

d. Lilliefors' method based on 10000 Monte Carlo samples with starting seed 2000000.

IBM SPSS Statistics 27

2. Multicollinearity

Coefficients[a]

		Collinearity Statistics	
Model		Tolerance	VIF
1	TV	.995	1.005
	radio	.873	1.145
	newspaper	.873	1.145

a. Dependent Variable: sales

IBM SPSS Statistics 27

3. Heteroskedasticity

Heteroskedasticity Test: White
Null hypothesis: Homoskedasticity

F-statistic	10.76320	Prob. F(9,190)	0.0000
Obs*R-squared	67.53524	Prob. Chi-Square(9)	0.0000

4. Autocorrelation

Model Summary[b]

Model	Durbin-Watson
1	2.084[a]

a. Predictors: (Constant), newspaper, TV, radio

b. Dependent Variable: sales

Model Fit

Dependent Variable: SALES
Method: Least Squares
Date: 11/14/24   Time: 21:17
Sample: 1 200
Included observations: 200

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	2.938889	0.311908	9.422288	0.0000
TV	0.045765	0.001395	32.80862	0.0000
RADIO	0.188530	0.008611	21.89350	0.0000
NEWSPAPER	-0.001037	0.005871	-0.176715	0.8599