

7.4: Software Solution

Minitab

The screenshot shows the Minitab software interface. The 'Stat' menu is open, and 'Regression' is selected. Below it, 'General Regression...' is highlighted. The worksheet 'Worksheet 1 ***' contains the following data:

	C1	C2	C3	C4	C5	C6	C7
	volume	dbh					
1	199.0	30.4					
2	188.0	21.2					
3	184.0	28.6					
4	177.0	22.7					
5	172.0	27.0					
6	172.0	27.6					
7	171.7	29.0					
8	167.0	23.2					
9	160.0	21.3					
10	159.0	21.9					
11	151.8	26.6					

At the bottom, a status bar indicates: 'Perform polynomial regression with continuous and categorical predictors'.

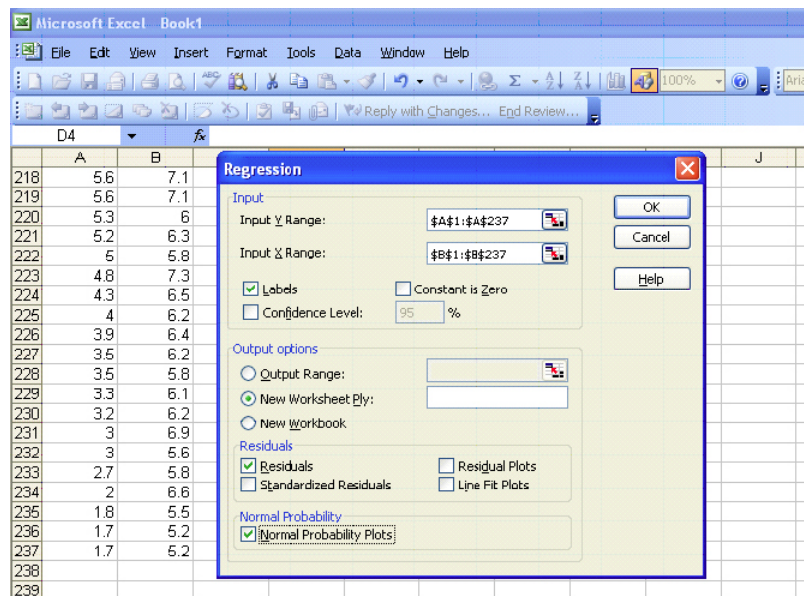
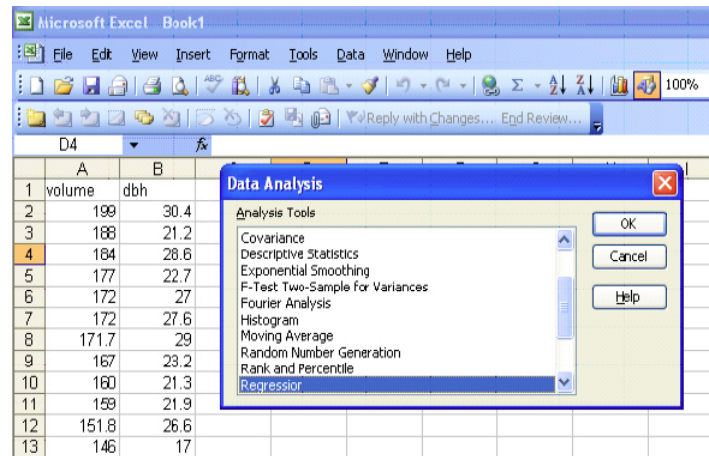
The screenshot shows the 'General Regression' dialog box in Minitab. The 'Response' is set to 'volume' and the 'Model' is set to 'dbh'. The 'Categorical predictors (optional)' list is empty. Below the dialog box, the 'General Regression - Graphs' sub-dialog box is open, showing the following options:

- Residuals for Plots: ☒ Regular ☐ Standardized ☐ Deleted
- Residual Plots: ☒ Individual plots
 - ☐ Histogram of residuals
 - ☒ Normal plot of residuals
 - ☒ Residuals versus fits
 - ☐ Residuals versus order
- ☐ Four in one
- Residuals versus the variables: (empty list)

Buttons for 'Select', 'Help', 'OK', and 'Cancel' are visible at the bottom of the sub-dialog box.

The Minitab output is shown above in Ex. 4.

Excel



SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.89404782
R Square	0.7993215
Adjusted R Square	0.7984639
Standard Error	19.5819962
Observations	236

ANOVA					
	df	SS	MS	F	Significance F
Regression	1	357396.6011	357396.6	932.0442	1.44E-83
Residual	234	89728.37054	383.4546		
Total	235	447124.9717			

	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95.0%	Upper 95.0%
Intercept	-51.096811	3.270935681	-15.6215	3.66E-38	-57.5411	-44.6526	-57.5411	-44.6526
dbh	7.14997446	0.234199651	30.5294	1.44E-83	6.688565	7.611384	6.688565	7.611384

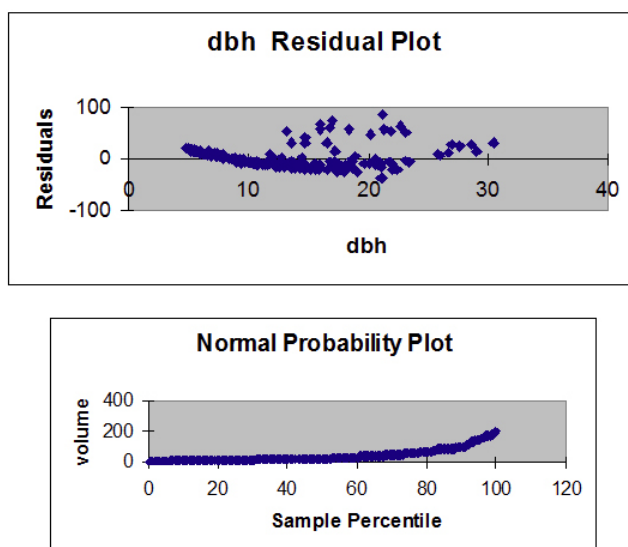


Figure 7.4.1. Residual and normal probability plots.

This page titled [7.4: Software Solution](#) is shared under a [CC BY-NC-SA 3.0](#) license and was authored, remixed, and/or curated by [Diane Kiernan \(OpenSUNY\)](#) via [source content](#) that was edited to the style and standards of the LibreTexts platform.