A13.3 (*CD-ROM TOPIC*) USING SPSS FOR SIMPLE LINEAR REGRESSION

You can use SPSS for simple linear regression. As an example, open the **SITE.SAV** file. Select **Analyze → Regression → Linear**.

1. In the Linear Regression dialog box (see Figure A13.8), enter **sales** in the Dependent: edit box and **sqfeet** in the Independent(s): edit box. Click the **Statistics** button.
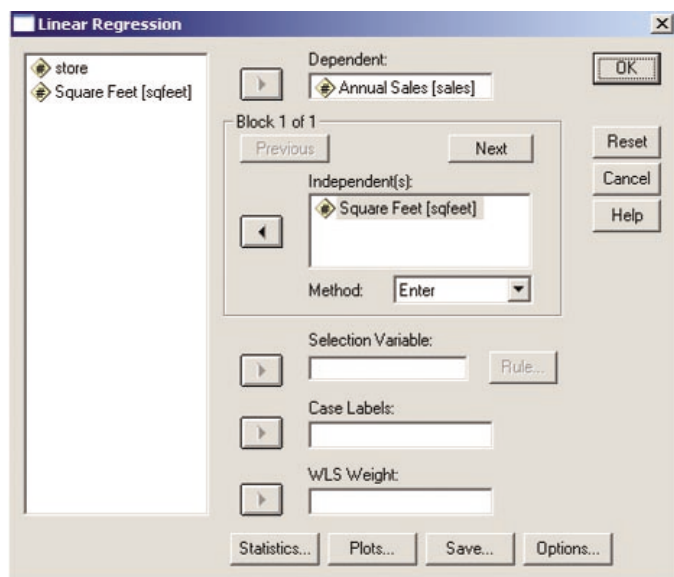

FIGURE A13.8 SPSS Linear Regression Dialog Box

2. In the Linear Regression: Statistics dialog box (see Figure A13.9), select the **Estimates, Confidence intervals**, and **Model fit** check boxes. (If the data are collected over time, select the Durbin-Watson check box.) Click the **Continue** button. Click the **Plots** button.

3. In the Linear Regression: Plots dialog box (see Figure A13.10), select the **Histogram** and/or the **Normal probability plot** check boxes to check for normality.
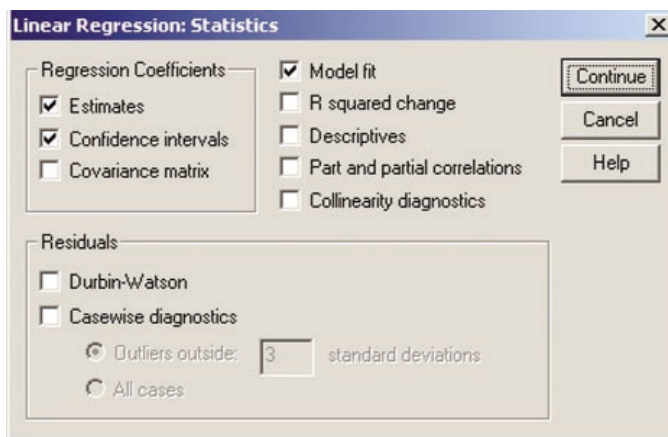

FIGURE A13.9 SPSS Linear Regression: Statistics Dialog Box
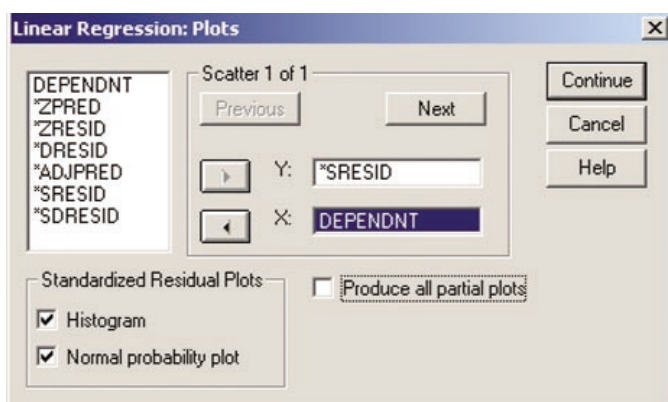

FIGURE A13.10 SPSS Linear Regression: Plots Dialog Box

For a scatter plot of the residuals, enter ***ZRESID** (for residuals in *Z* units) in the Y: edit box and ***ZPRED** (the predicted *Y* values in *Z* units) in the X: edit box. Click the **Continue** button. Click the **OK** button. Figure A13.11 represents partial output for the site selection problem.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.951[a]	.904	.896	.9664

a. Predictors: (Constant), Square Feet

b. Dependent Variable: Annual Sales

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	105.748	1	105.748	113.234	.000[a]
	Residual	11.207	12	.934		
	Total	116.954	13			

a. Predictors: (Constant), Square Feet

b. Dependent Variable: Annual Sales

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95% Confidence Interval for B	
		B	Std. Error	Beta			Lower Bound	Upper Bound
1	(Constant)	.964	.526		1.833	.092	-.182	2.111
	Square Feet	1.670	.157	.951	10.641	.000	1.328	2.012

a. Dependent Variable: Annual Sales

FIGURE A13.11 SPSS Output for the Site Selection Problem