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EXAMPLE 3.10 Let us apply the linear regression model (3.27) to the "classic blue" pullovers. The sales manager believes that there is a strong dependence on the number of sales as a function of price. He computes the regression line as shown in Figure 3.5.

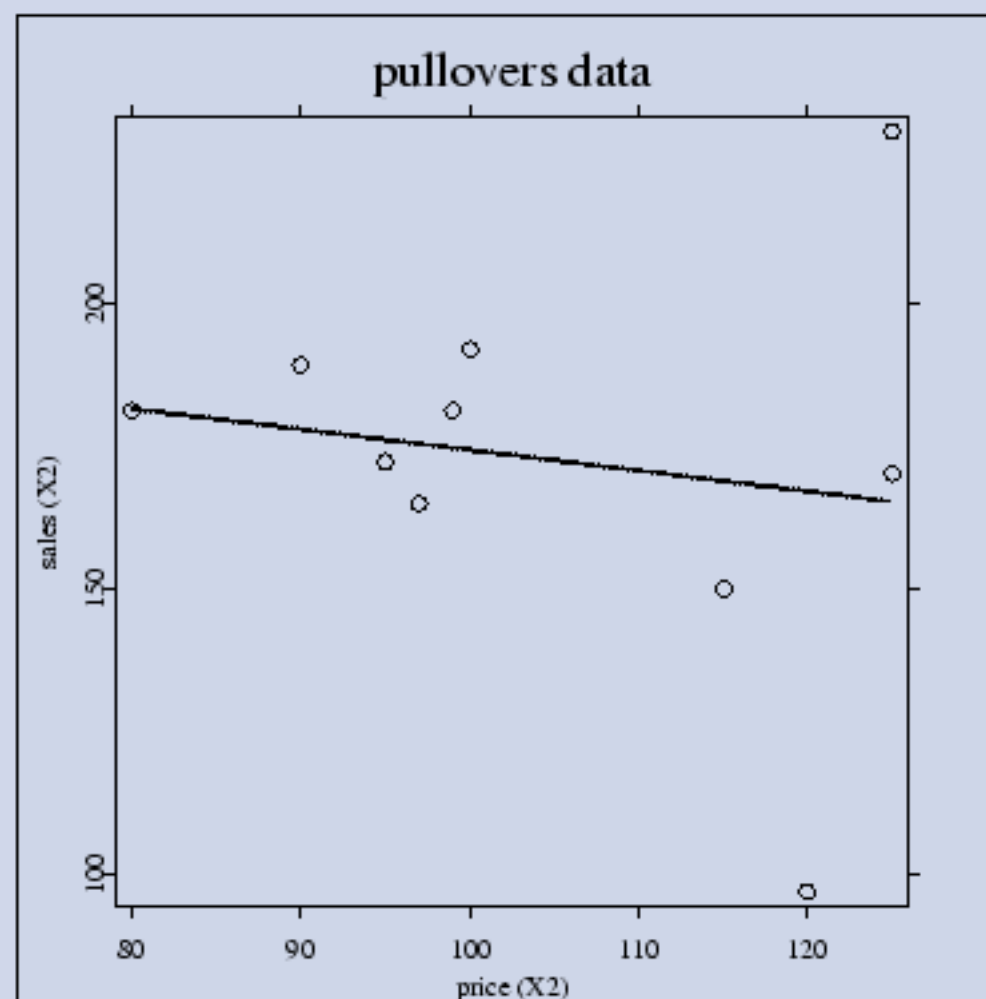


Figure 3.5: Regression of sales (X_1) on price (X_2) of pullovers. [MVAregpull.xpl](#)

How good is this fit? This can be judged via goodness-of-fit measures. Define

$$\hat{y}_i = \hat{\alpha} + \hat{\beta}x_i, \quad (3.34)$$

as the predicted value of y as a function of x . With \hat{y} the textile shop manager in the above example can predict sales as