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| **1.The marketing manager of a large supermarket chain would like to use shelf space to predict the sales of pet food. A random sample of 12 equalized stores is selected, with the following results.**   |  |  |  | | --- | --- | --- | | **Store** | **Shelf Space(X)** | **Weekly sales(Y)** | | **1** | **5** | **160** | | **2** | **5** | **220** | | **3** | **5** | **140** | | **4** | **10** | **190** | | **5** | **10** | **240** | | **6** | **10** | **260** | | **7** | **15** | **230** | | **8** | **15** | **270** | | **9** | **15** | **280** | | **10** | **20** | **260** | | **11** | **20** | **290** | | **12** | **20** | **310** |  1. Construct a scatter plot. For these data, b0 = 145 and b1 = 1 7.4 2. Interpret the meaning of the slope, b1, in this problem 3. Predict the weekly sales of pet food for stores with 8 feet of shelf space for pet food.   **2.**  In Problem 13.4 on page 481, the marketing manager used shelf for pet food to predict weekly sales (stored in Petfood). For those data SSR = 20,535 and SST = 30,025   1. Determine the coefficient of determination, r2, and interpret its meaning. 2. Determine the standard error of the estimate. 3. How useful do you think this regression model is for predicting sales   3.  Circulation is the lifeblood of a publishing business. The larger the sales of a the publisher’s reports of magazine newsstand sales and subsequent audits by magazine, the more it can large advertisers. However, a circulation gap has appeared between the Audit Bureau of Circulations give the following results:   |  |  |  | | --- | --- | --- | | **Magazine** | **Reported (X)** | **Audited(Y)** | | YM | 621.0 | 299.6 | | CosmoGirl | 359.7 | 207.7 | | Rosie | 530.0 | 325.0 | | Playboy | 492.1 | 336.3 | | Esquire | 70.5 | 48.6 | | TeenPeople | 567.0 | 400.3 | | More | 125.5 | 91.2 | | Spin | 50.6 | 39.1 | | Vogue | 353.3 | 268.6 | | Elle | 263.6 | 214.3 | |  |  |  | |  |  |  |  1. Construct a scatter plot 2. For these data, bo = 26.724 and b1 = 0.5719 3. Interpret the slope, b1, in this problem 4. Predict the audited newsstand sales for a magazine the reports the newsstand sales of 400,000 5. Determine the coefficient of determination, r2,and interpret its meaning 6. Determine the standard of error of the estimate. 7. How useful do you think this regression model is for predicting sales? |