Understanding Seasonal Deviation

The seasonal value of -117.20 indicates how much lower the sales were in July compared to what would be expected based on the trend. This is derived from historical data, typically representing the average seasonal impact over a set period (in your case, four years).

Calculation of Expected Sales

1. **Total Sales for July**: 1487.67
2. **Trend Sales**: 1702.84
3. **Seasonal Component**: -117.20

Expected Sales Calculation

To find the expected sales based on the trend and seasonal component, we can use the following formula:

$$\text{Expected Sales} = \text{Trend Sales} + \text{Seasonal Component}$$

Substituting Values

1. **Substituting Values**:

$$\text{Expected Sales} = 1702.84 + (-117.20) = 1702.84 - 117.20$$

2. **Calculating Expected Sales**:

$$\text{Expected Sales} = 1585.64$$

Interpreting the Result

- **Expected Sales**: 1585.64
- **Actual Sales**: 1487.67
- **Seasonal Deviation**: The difference between expected and actual sales gives us the impact of seasonal factors:

$$\text{Seasonal Deviation} = \text{Expected Sales} - \text{Actual Sales}$$

$$\text{Seasonal Deviation} = 1585.64 - 1487.67 = 97.97$$

Summary of Findings

1. The expected sales for July, considering the trend and seasonal adjustment, is approximately **$1585.64**.

2. The actual sales were **$1487.67**, which is about **$97.97** lower than expected due to seasonal factors.
3. The seasonal component indicates that sales were reduced by -117.20 compared to the trend. However, because the trend already accounts for seasonal fluctuations over a multi-year period, the actual sales were less than the trend but higher than the seasonal effect alone.

Conclusion

- Thus, for the month of July, we did not experience a **7.87% decrease** in sales but instead observed that actual sales were **$97.97** lower than the expected sales of **$1585.64** due to seasonal effects. The seasonal value (-117.20) helps to explain the variation relative to the expected trend.