BA265 Practice Exam 3 Name: _____
November 12, 2024

A company wants to determine the relationship between the size of its sales team and total revenue. They've collected the data below from the past ten years for analysis.

Time Period	Sales Team	Revenue (Million $)
1	15	15
2	18	20
3	20	28
4	21	28
5	22	31
6	28	32
7	24	40
8	25	37
9	30	38
10	35	42

1. Produce a **scatter plot** for Sales Team (x) and Revenue (y).
2. Calculate the Sum of Squares, **SSxx, SSyy and SSxy**.
3. Determine the **Equation of the Regression Line**.
4. Calculate the **Pearson Correlation Coefficient** (r).
5. Calculate **R-Squared**.

6. Recently the same company announced plans to reduce the size of the sales team size. The sales manager has asked you to generate revenue estimates assuming 27 people. **Use the regression equation from #4 (above) to generate a revenue estimate for a 27-person Sales Team.**

7. The sales manager believes the earliest data for Sales Team size and Revenue are no longer valid with so many changes to the industry in recent years. He would like you to drop Time Periods 1 and 2 and recalculate a revenue estimate. **Produce a new Equation of the Regression Line and use the new equation to estimate revenue assuming, again, 27 people on the Sales Team.**