**Problem**

Please use the following data in MS Excel to answer the below questions (no need to send Excel file).

|  |  |
| --- | --- |
| **Year** | **Product X Share(%)** |
| 1 | 6.5 |
| 2 | 5.6 |
| 3 | 5.3 |
| 4 | 5.3 |
| 5 | 5.3 |
| 6 | 6.2 |
| 7 | 8.3 |

**a**) What is the forecast for the 8th year based on a exponential smoothing with alpha = 0.85 (use 6.0 as the first year’s forecast)? \_\_\_\_\_\_\_\_

**b**) What is the forecast for the 8th year based on a exponential smoothing with alpha = 0.6 (use 6.0 as the first year’s forecast)? \_\_\_\_\_\_\_\_

**c**) What is the forecast for the 8th year using regression? \_\_\_\_\_\_\_\_

**d**) What is the value of MAPE for exponential smoothing method from (**other question: alpha = 0.85**)? \_\_\_\_\_\_\_\_

**e**) What is the value of MAPE for regression? \_\_\_\_\_\_\_\_

**f**) Based on MAPE, which method is better?

(a) Exponential Smoothing (from 3a)

(b) Regression

**Problem**

Please use the following data in MS Excel to answer the below questions (no need to send Excel file).

|  |  |
| --- | --- |
| **Month** | **Competitor’s**  **Share of Voice (%)** |
| 1 | 5.4 |
| 2 | 5.8 |
| 3 | 5.3 |
| 4 | 5.7 |
| 5 | 5.3 |
| 6 | 5.0 |
| 7 | 6.4 |

**a**) What is the forecast for the 8th month based on a naïve approach? \_\_\_\_\_\_\_\_

**b**) What is the forecast for the 8th month based on 4-month simple moving average? \_\_\_\_\_\_\_\_

**c**) What is the forecast for the 8th month based on 3-month weighted moving average?

Weights are 0.5 (most recent), 0.35, and 0.15 (most distant): \_\_\_\_\_\_\_\_