

Analysing time series graphs (TSN)



Look for the long-term **Trend**, **Seasonality**, and **Noise** in each graph.

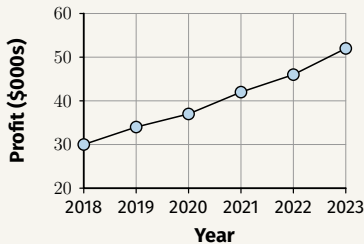
Name _____

Date _____

Reading a time series graph

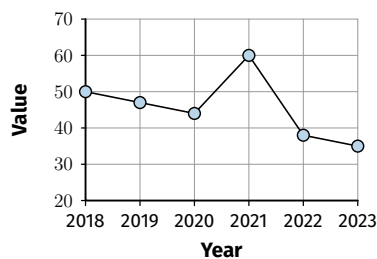
A time series graph plots data against time. Look for three things: the long-term **Trend** (increasing or decreasing, looking past the small ups and downs – never “positive”/“negative”), **Seasonality** (a pattern that repeats at a regular interval), and **Noise** (an unusual point that doesn't fit either pattern).

Worked example This graph shows a company's yearly profit. Describe the long-term trend.



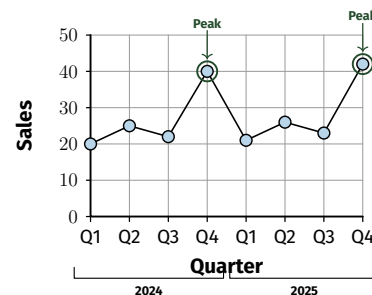
Profit rises steadily from \$30,000 in 2018 to \$52,000 in 2023. This is an **increasing** long-term trend.

1. Describe the long-term trend shown in this graph. Which point does not fit the trend?



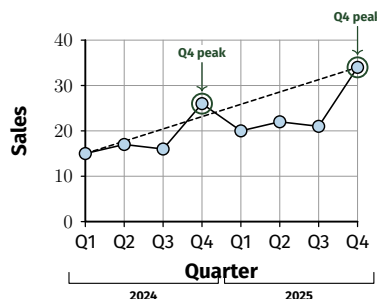
Working

2. Which quarter is highest in both years? What TSN component does this pattern show?



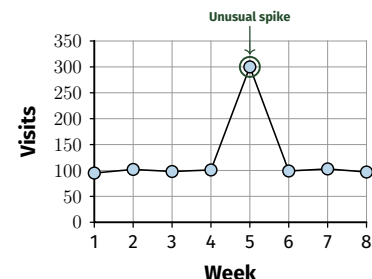
Working

3. Describe both the long-term trend and the seasonal pattern shown in this graph.



Working

4. This graph shows weekly website visits. Which point is noise? Suggest a possible cause.



Working

Analysing time series graphs (TSN) (continued)

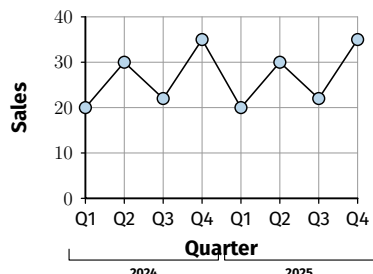
Look for the long-term Trend, Seasonality, and Noise in each graph.



Name _____

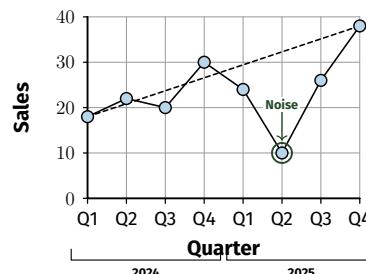
Date _____

5. Does this graph show a long-term trend? Explain your answer using the pattern you see.



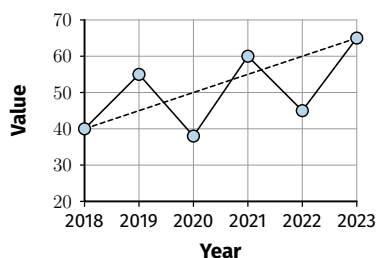
Working

6. Identify the trend, seasonality, and noise shown in this graph.



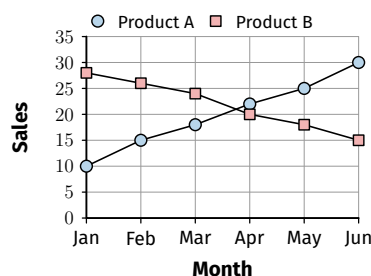
Working

7. The dashed line shows the overall trend. Describe it. Which point looks like noise?



Working

8. Compare the trend of Product A and Product B.



Working
