



S15-10min Time Series and Moving Averages: 10-minute Pack

EDEXCEL 1ST0 · Calculator allowed · about 10 minutes

Total Marks

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Name: _____ Date: ____ / ____ / ____

Answer ALL questions. Show all your working.

- 1** State the name given to the smooth, long-term direction shown by a moving average once the seasonal ups and downs have been removed.

(Total for Question 1 is 1 mark)

- 2** Write down whether this statement is True or False.
A 4-point moving average is found by adding 4 consecutive data values and dividing the total by 4.

(Total for Question 2 is 1 mark)

- 3** The quarterly sales figures for a market stall are 18, 42, 66, 24. Work out the total of these four values.

(Total for Question 3 is 1 mark)

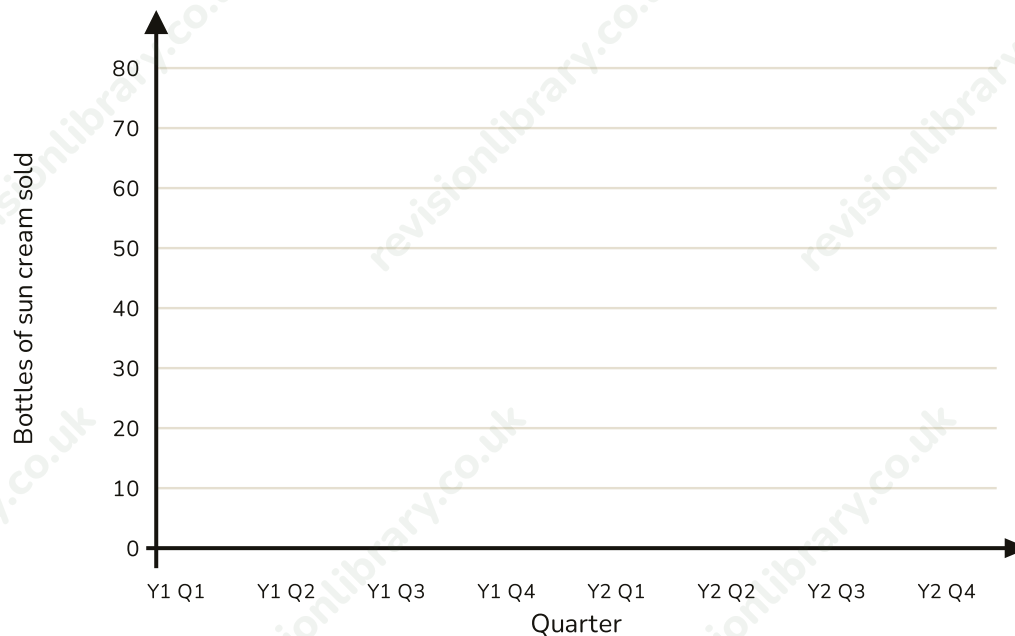
- 4** The first three 4-point moving averages for a cafe's quarterly sales are 40, 42, 44. State whether the trend is increasing, decreasing, or roughly constant.

(Total for Question 4 is 1 mark)

- 5 A pharmacy records the number of bottles of sun cream it sells each quarter.

Quarter	Y1 Q1	Y1 Q2	Y1 Q3	Y1 Q4	Y2 Q1	Y2 Q2	Y2 Q3	Y2 Q4
Bottles sold	10	40	70	20	20	50	80	30

On the grid provided, draw a time series graph to show this information. Plot each point and join them, in order, with straight lines.



(Total for Question 5 is 5 marks)

- 6 A shop records sales over 2 complete years, giving 8 quarters of data. Work out how many 4-point moving averages can be calculated from this data.

(Total for Question 6 is 2 marks)

Mark scheme · S15-10min Time Series and Moving Averages: 10-minute Pack

Question 1

- **B1** Trend cao
- **Answer: Trend**

Question 2

- **B1** True cao
- **Answer: True**

Question 3

- **B1** 150 cao
- **Answer: 150**

Question 4

- **B1** Increasing cao
- **Answer: Increasing**

Question 5

- **B1** a suitable uniform scale chosen on the vertical axis, starting at 0
- **B1** the first four points plotted correctly: 10, 40, 70, 20 ($\pm$ half a small square)
- **B1** the last four points plotted correctly: 20, 50, 80, 30 ($\pm$ half a small square)
- **B1** all 8 points joined, in time order, with straight line segments
- **B1** graph fully labelled, with both axes labelled
- **Answer: Time series graph with points at 10, 40, 70, 20, 20, 50, 80, 30 joined in order.**

Question 6

- **M1** $8 - 4 + 1$, oe
- **A1** 5 cao
- **Answer: 5**