N5 Applications Calculator

Past Papers Homework

1) (a) Over an eight-month period, Goran records how much he spends on his pay-as-you-go mobile phone.

£32, £23, £43, £40, £27, £35, £15, £25.

Calculate the mean and standard deviation for this data. **[4]**

(b) Gordon's wife also recorded her spending on her pay-as-you-go mobile. Her mean spending was **£25**, and the standard deviation was **£12.50.**
Make two valid comments comparing Gordon's and his wife's spending. **[2]**

2) Sarah bought her house in May 2014 for **£130 000.**
In the **first two years** the value of the house **increased by 5%** per annum.
For the **next three years** the value of the house **decreased by 2%** per annum.
(a) What is the value of the house in May 2019?
Give your answer to three significant figures **[5]**

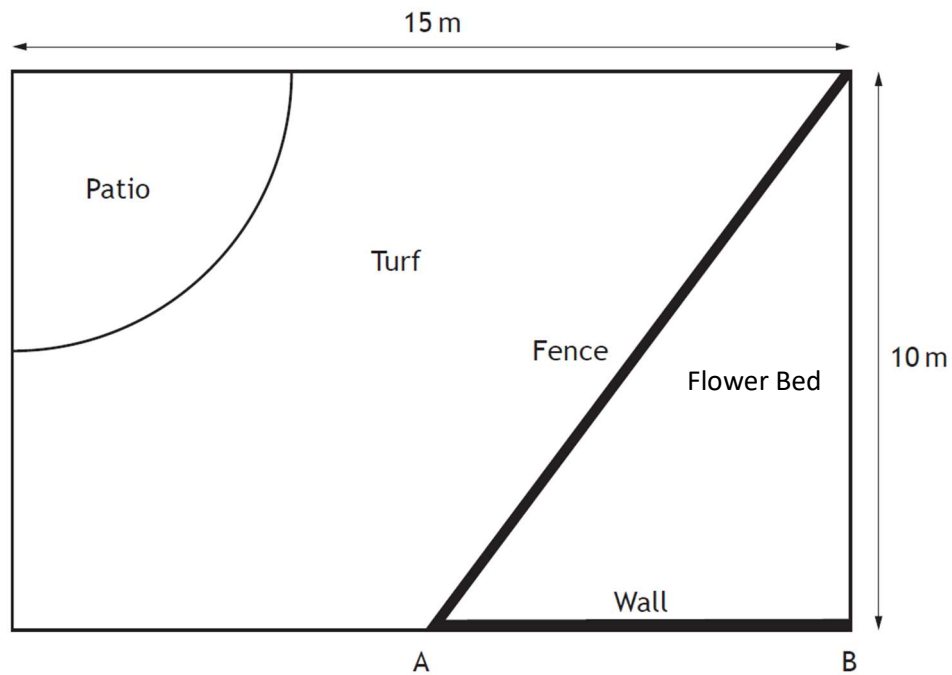**(b)** House prices have risen on **average by 4·5%** over this five-year period.
Has the value of Sarah's house risen in line with this average?
Give a reason for your answer. **[2]**

3) A landscape gardener is designing a garden. He plans to build a triangular flower bed. To separate the flower bed from the lawn, he uses a low fence.
The fence is made of 5 sections, each 2·8 metres long.

15 m

Patio

Turf

Fence

Flower Bed

10 m

Wall

A

B

(a) Calculate the length of the wall, AB. **[3]**

(b) A patio in the shape of a **quarter circle with a radius of 5 metres** is to be created in the corner.
The rest of the garden is to be laid as turf.

Turf is sold in **5 m^2 rolls** costing **£14·95 per roll**.
Calculate the cost of buying turf for this garden. **[6]**

4) Mr and Mrs Sibbald take part in a church lottery which consists of a draw from a set of 32 balls numbered from 1 to 32.
(i) What is the probability that the first ball drawn has a number greater than 25? **[1]**

In the draw four numbered balls are drawn and not replaced.
A further bonus ball is also drawn.
(ii) What is the probability of the number 9 being drawn as the bonus ball if it was not drawn in the first four? **[2]**