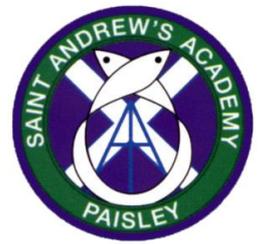


National 5 Mathematics (1YR)

Formal Homework 9



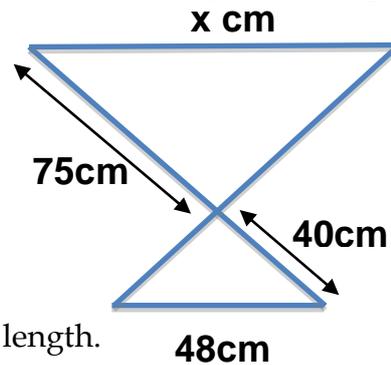
You must not use a calculator for questions 1 – 3:

1. The ages of 20 members of the Stagestruck Drama Club are shown in this table:

31	20	28	32	18	22	32	28	15	21
38	36	24	21	23	13	30	17	42	43

- (a) Make a five-figure summary of this data and calculate the semi-interquartile range. 4
 (b) Illustrate the data on a boxplot. 2

2. Janet needs an ironing board.
 She sees one in a catalogue with measurements as shown in the diagram opposite.



When the ironing board is set up, two similar triangles are formed.
 Janet wants an ironing board which is at least 80 cm in length.

- Does this ironing board meet Janet's requirements? Show all your working. 3

3. Make a neat sketch of each of the following for $0 \leq x \leq 360$, showing important points.

- (a) $y = 4\sin(x - 45)^\circ$ (b) $y = -3 \cos 2x^\circ$ 3.3

You may now use a calculator for questions 4-6

4. (a) Six patients at a medical centre were asked the delay in seeing their doctor after their appointment time on their last visit. The results were as follows:
 Delay (in minutes).

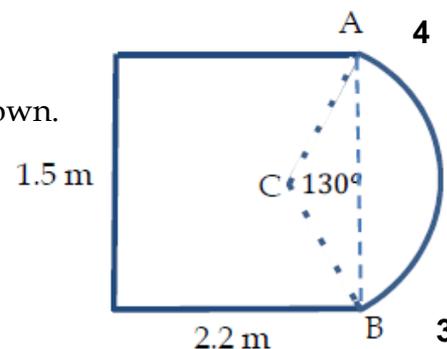
8 9 10 12 14 19

Calculate the mean and standard deviation of these times. 4

- (b) The medical centre increased the length of all doctors' appointments.
 At their next visit the same six patients were asked the same question and it was found that the mean waiting time was 7 minutes and the standard deviation was 6 minutes. Make two valid comparisons between the two sets of data 2

5. A rhombus has diagonals of 60cm and 32cm.
 Calculate the perimeter of the shape. 4

6. A dining table is rectangular with one curved edge, as shown.
 The curved edge is an arc of a circle, centre C.



- (a) By considering triangle, ABC, calculate the length of CA. 3,3
 (b) Calculate the perimeter of the dining table.

Total : 31 marks

