

STATISTICS (Q 7, PAPER 2)

1997

- 7 (a) The table shows the distribution of ages of a group of 100 people.

Age (in years)	0 - 10	10 - 20	20 - 30	30 - 50	50 - 80
Number of people	10	19	25	30	16

[Note that 10-20 means that 10 is included but 20 is not, etc.]

Taking 5, 15, etc. as mid-interval values, estimate the mean age of the people in the group.

- (b) {2, 5, 6, 4.5, 2.5}

Show that 4 is the mean of this set of numbers.

Then, calculate the standard deviation, correct to one place of decimals.

- (c) A new shop opened at 0900 hours. During the first hour of trading, customers were counted as they entered the shop. The following cumulative frequency table shows the number of customers who has entered before the given times:

Time	0910	0920	0930	0940	0950	1000
No. of customers	45	69	95	120	144	250

- (i) Draw a cumulative frequency curve.
- (ii) A photograph was taken of the 100th. customer as he or she entered the shop. Use your curve to estimate the time at which the photograph was taken.
- (iii) Use your curve to estimate the number of customers who entered the shop during the 15 minutes immediately after the photograph was taken.

ANSWERS

7 (a) 32

(b) 1.5

(c) (ii) 0932 (iii) 38