

2003 Sample Paper

Question 6

- Q6. (a) Thirty people responded to a particular question in a survey. The answers are summarized in the table below.

Answer	Yes	No	No opinion
Number of people	6	15	9

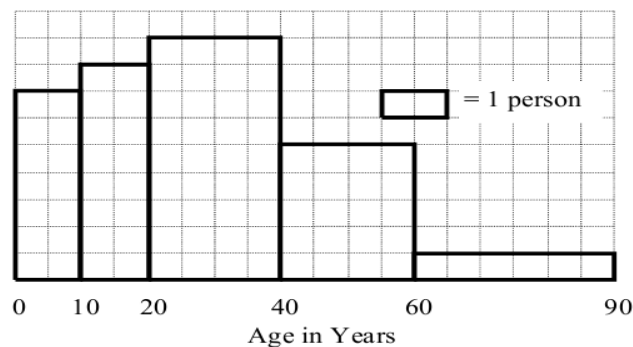
Draw a pie –chart to illustrate the proportion of people giving each answer.

- (b) The table below shows the distribution of the number of goals scored by a certain school team in each of the matches played during a season.

Goals scored	0	1	2	3	4	5
Number of matches	4	7	6	4	3	1

Find the mean of the distribution.

- (c) The distribution of the ages of the people staying at a campsite is shown in the histogram below.



- (i) Copy and complete the frequency table below.

Age in Years	0 - 10	10 - 20	20 - 40	40 - 60	60 - 90
Number of People					

[Note: 10 – 20 means 10 years or more but less than 20 years old]

- (ii) Copy and complete the cumulative frequency table below.

Age in Years	<10	<20	<40	<60	<90
Number of People					

- (iii) Construct an ogive and use it to estimate the median age.

Solution

Q6. (a) Thirty people responded to a particular question in a survey. The answers are summarized in the table below.

Answer	Yes	No	No opinion
Number of people	6	15	9

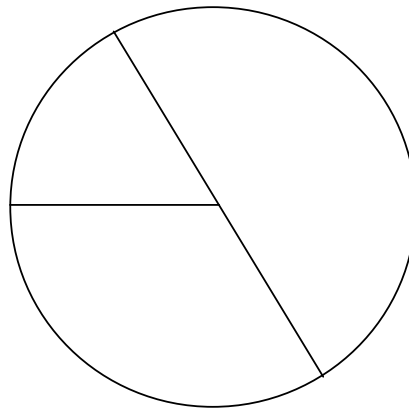
Draw a pie –chart to illustrate the proportion of people giving each answer.

$$\text{Total } 6 + 15 + 9 = 30$$

$$\text{Yes } \frac{6}{30} \times \frac{360}{1} = 72^\circ$$

$$\text{No } \frac{15}{30} \times \frac{360}{1} = 180^\circ$$

$$\text{No Opinion } \frac{9}{30} \times \frac{360}{1} = 108^\circ$$



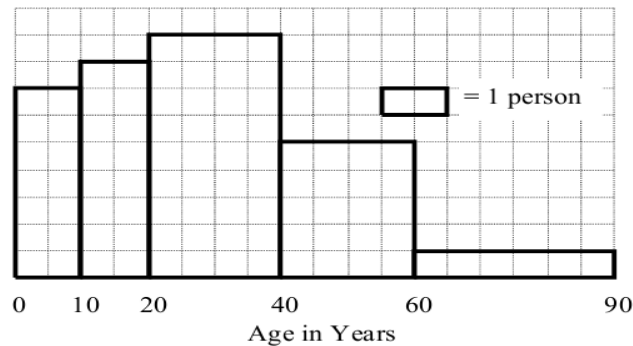
- (b) The table below shows the distribution of the number of goals scored by a certain school team in each of the matches played during a season.

Goals scored	0	1	2	3	4	5
Number of matches	4	7	6	4	3	1

Find the mean of the distribution.

$$\begin{aligned} \text{Mean} &= \frac{(0 \times 4) + (1 \times 7) + (2 \times 6) + (3 \times 4) + (4 \times 3) + (5 \times 1)}{4 + 7 + 6 + 4 + 3 + 1} \\ &= \frac{0 + 7 + 12 + 12 + 12 + 5}{25} \\ &= \frac{48}{25} \\ &= 1.92 \end{aligned}$$

- (c) The distribution of the ages of the people staying at a campsite is shown in the histogram below.



- (i) Copy and complete the frequency table below.

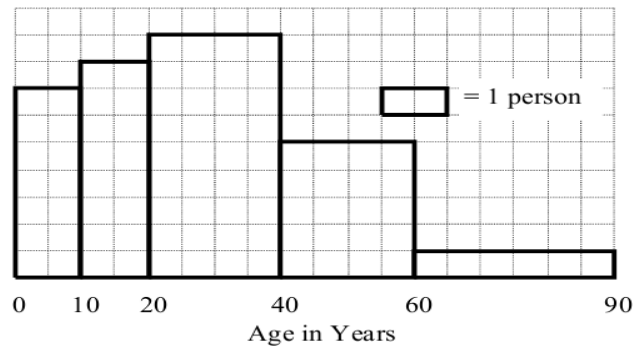
Age in Years	0 - 10	10 - 20	20 - 40	40 - 60	60 - 90
Number of People					

[Note: 10 – 20 means 10 years or more but less than 20 years old]

- (ii) Copy and complete the cumulative frequency table below.

Age in Years	<10	<20	<40	<60	<90
Number of People					

Construct an ogive and use it to estimate the median age.

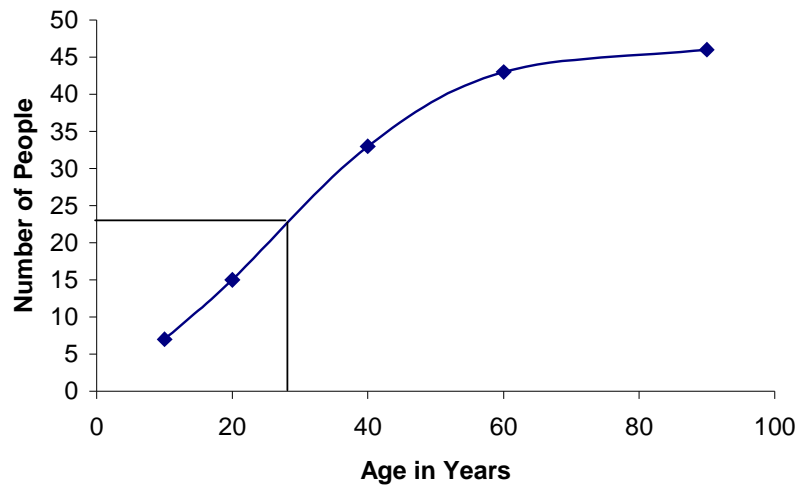


(i)

Age in Years	0 - 10	10 - 20	20 - 40	40 - 60	60 - 90
Number of People	7	8	18	10	3

(ii)

Age in Years	<10	<20	<40	<60	<90
Number of People	7	15	33	43	46



Median = 28