Practice Questions – Set 01 - Math 2205

1. Which of the following statements is not true?

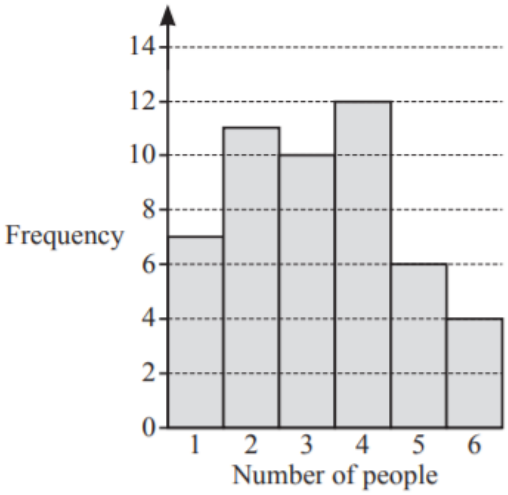
I. A sample is the representative part of population.
II. The heights of students is continues variable
III. The population consists of all the data of interest
IV. The number of books in a library is continues variable

2. For symmetrical distribution which one of the following is true

I. Mean > Median> Mode
II. Mean = Median= Mode
III. Mean < Median < Mode
IV. None of the above

3.

A survey recorded the number of people living in each of 50 houses.
The bar chart shows the results.



(a) Find the mode.

(b) Find the median.

(c) Calculate the mean.

4. Which of the following statement is not correct

(i) Range is one the tools of measuring dispersion
(ii) Box and whisker plot does not include standard deviation
(iii) If Q3- Q2> Q2-Q1 , then the distribution is negatively skewed.
(iv) Mode is the value that occurs highest number in frequency in a set of data.

5.

Twenty children were asked to estimate the height of a particular tree. Their estimates, in metres, were as follows.

4.1	4.2	4.4	4.5	4.6	4.8	5.0	5.2	5.3	5.4
5.5	5.8	6.0	6.2	6.3	6.4	6.6	6.8	6.9	19.4

(a) Find the mean of the estimated heights. [1]

(b) Find the median of the estimated heights.

(c) Give a reason why the median is likely to be more suitable than the mean as a measure of the central tendency for this information. [1]

6.

The time taken, t minutes, to complete a puzzle was recorded for each of 150 students. These times are summarised in the table.

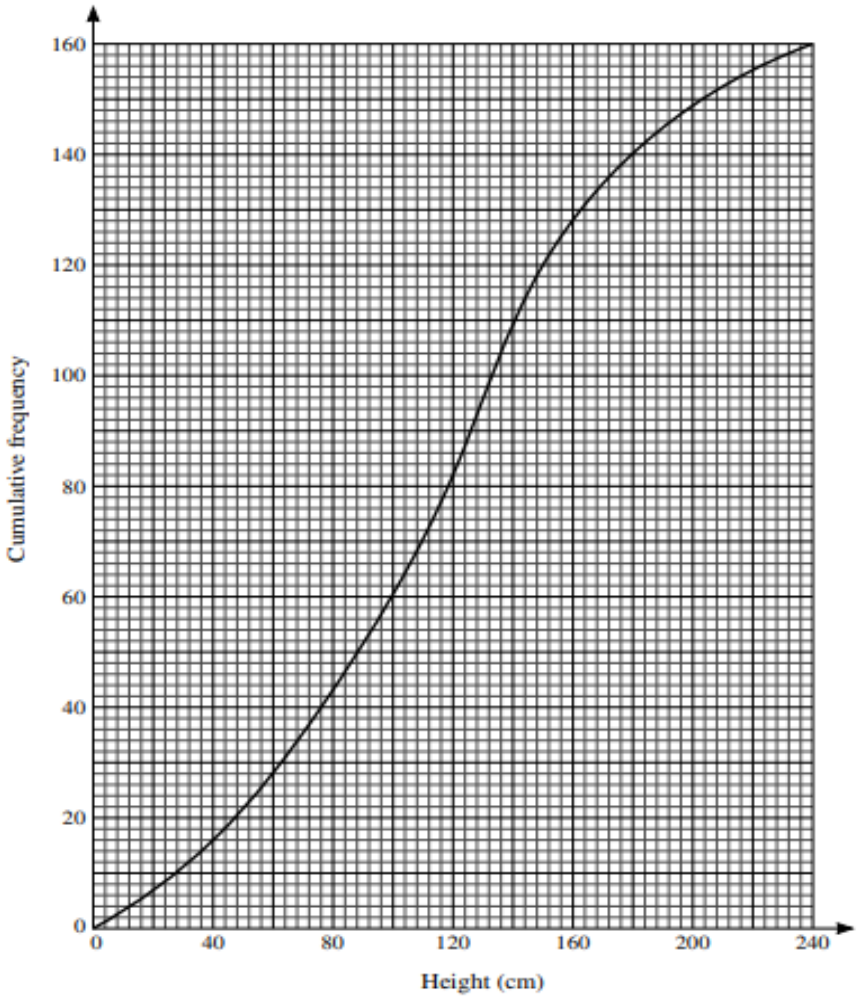
Time taken (t minutes)	$t \leqslant 25$	$t \leqslant 50$	$t \leqslant 75$	$t \leqslant 100$	$t \leqslant 150$	$t \leqslant 200$
Cumulative frequency	16	44	86	104	132	150

(a) Draw a cumulative frequency graph to illustrate the data. [2]

(b) Use your graph to estimate the 20th percentile of the data.

07.

The heights in cm of 160 sunflower plants were measured. The results are summarised on the following cumulative frequency curve.



(a) Use the graph to estimate the number of plants with heights less than 100 cm.

(b) Use the graph to estimate the 65th percentile of the distribution.

(c) Use the graph to estimate the interquartile range of the heights of these plants.

8.

A survey was made of the number of people attending church services on one Sunday morning. A random sample of 500 churches was taken. The results are as follows:

Number of people attending	1–20	21–40	41–60	61–100	101–200	201–300
Number of churches	46	110	122	100	86	36

Calculate the mean number of attending in the church services.