Answer on Question #58232 – Math – Statistics and Probability

Question

How to put inequalities in class interval with these numbers:

18.7	15.8	15.6
19.3	15	19.4
15.9	17.2	16.5
17.5	21.6	25.5
19.4	21.8	15.9
20.9	17.4	16.2
17.3	17	18.2
19.7	22	17.5

Solution

We need to find the range:

$$range = max - min = 25.5 - 15 = 10.5.$$

We need to state the number of class intervals. For example, let it be 4.

The width of intervals is

$$w = \frac{10.5}{4} = 2.625\ round\ up\ to\ 3.$$

The inequalities for class intervals are as follows:

$min \le X < min + w$
$min + w \le X < min + 2w$
$min + 2w \le X < min + 3w$
$min + 3w \le X < min + 4w$

In our case,

$15 \le X < 18$
$18 \le X < 21$
$21 \le X < 24$
$24 \le X < 27$

It is easy now to produce a frequency distribution for this set of data:

Class interval	Frequency
$15 \le X < 18$	12
$18 \le X < 21$	7
$21 \le X < 24$	3
$24 \le X < 27$	1