

Mathematics

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(Chapter – 13) (Statistics & Probability)(Exemplar Problems)
(Class – X)

Exercise 13.1

Choose the correct answer from the given four options:

Question 9:

Consider the data

Class	65 – 85	85 – 105	105 – 125	125 – 145	145 – 165	165 – 185	185 – 205
Frequency	4	5	13	20	14	7	4

The difference of the upper limit of the median class and the lower limit of the modal class is

- (A) 0 (B) 19 (C) 20 (D) 38

Answer 9:

- (C) 20

Solution:

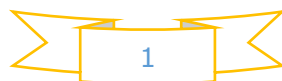
Class	Frequency	Cumulative Frequency
65 – 85	4	4
85 – 105	5	9
105 – 125	13	22
125 – 145	20	42
145 – 165	14	56
165 – 185	7	63
185 – 205	4	67

Here,

$$\frac{N}{2} = \frac{67}{2} = 33.5$$

Which lies in the interval 125 – 145.

Hence upper limit of median class is 145.



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Here, the highest frequency is 20 which lies in 125 – 145.

Hence, the lower limit of modal class is 125.

∴ Required difference

= Upper limit of median – Lower limit of modal class

= 145 – 125 = 20.

Hence, the option (C) is correct.

