

Class: IX
Subject: Mathematics
Topic: Statistics
No. of Questions: 20
Duration: 60 Min
Maximum Marks: 60

1. In the table given below, what is the frequency for the age group 60 – 70?

Age group	Cumulative Frequency
30 – 40	4
40 – 50	9
50 – 60	15
60 – 70	22
70 – 80	30

- A. 8
B. 18
C. 7
D. 22

Solution: C

The frequency for the age group 60 – 70
= [Cumulative frequency of class interval 60 – 70] – [Cumulative frequency of class interval 50 – 60]
= 22 – 15 = 7

PARAGRAPH

Answer the question based on the table given below.

Age group	Cumulative Frequency
30 - 40	4
40 - 50	9
50 - 60	15
60 - 70	22
70 - 80	30

2. What is the frequency for the age group 40 - 50?

- A. 6
- B. 5
- C. 9
- D. 10

Solution: B

The frequency for age group 40 - 50

= [Cumulative frequency of class interval 40 - 50] - [Cumulative frequency of class interval 30 - 40]

= 9 - 4 = 5

Directions: Answer the question based on the table given below.

Age group	Cumulative Frequency
30 - 40	4
40 - 50	9
50 - 60	15
60 - 70	22
70 - 80	30

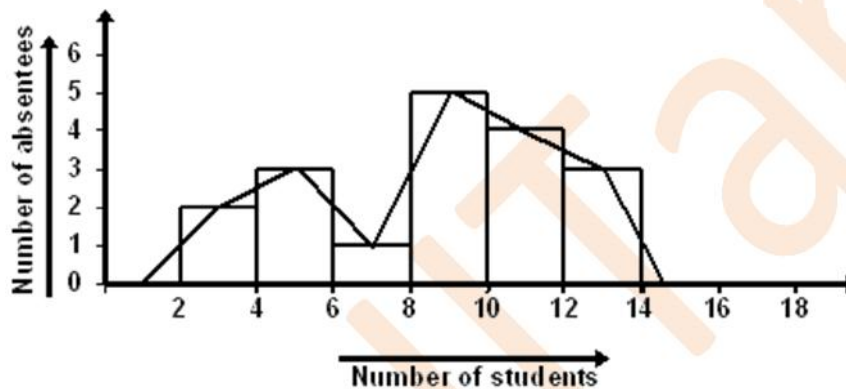
3. What is the class size of each age group of the given table?

- A. 10
- B. 5
- C. 50
- D. 35

Solution: A

The class size of each age group = upper limit – lower limit
= 40 – 30 = 10

Answer the question based on the given frequency polygon.



4. What is the class mark of students who were absent only once?

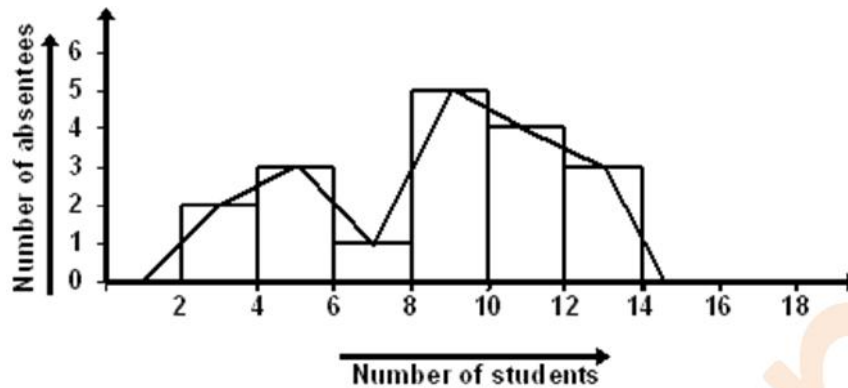
- A. 7
- B. 1
- C. 14
- D. 2

Solution: A

The class interval for the number of students who were absent only once is 6 – 8.

$$\begin{aligned} \text{So, class mark} &= \frac{\text{upper limit} + \text{lower limit}}{2} \\ &= \frac{8 + 6}{2} = \frac{14}{2} = 7 \end{aligned}$$

Answer the question based on the given frequency polygon.

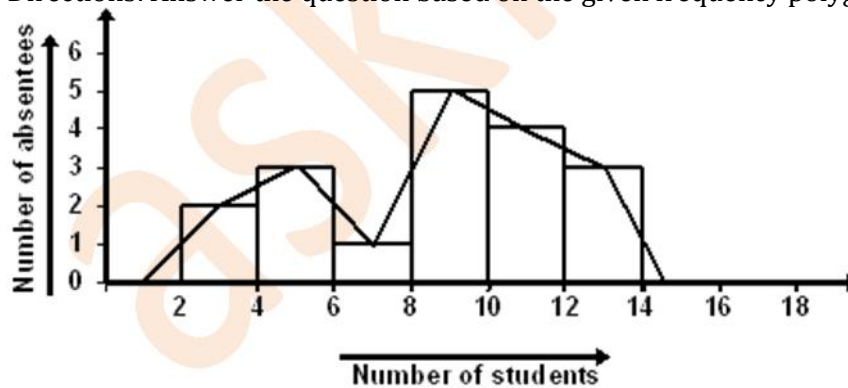


5. What is the class size of each class?
- 1
 - 6
 - 3
 - 2

Solution: D

Class size of each class interval = (upper limit – lower limit) of any interval
 $= 4 - 2 = 2$

Directions: Answer the question based on the given frequency polygon.

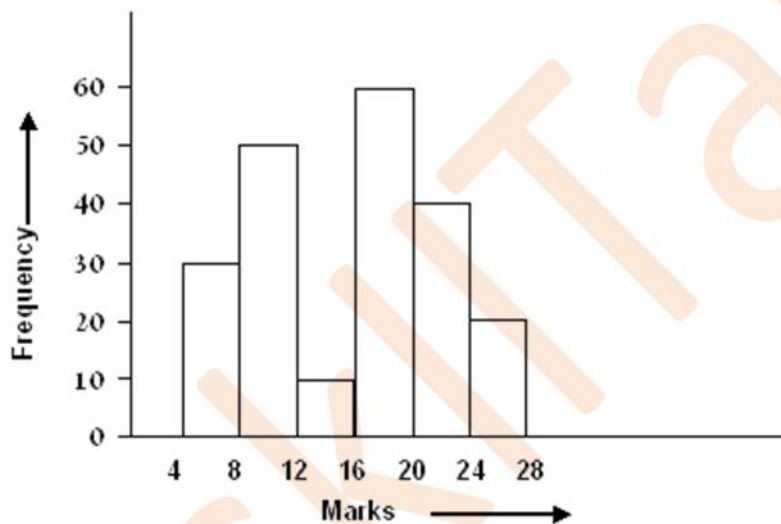


6. What is the frequency of the absentees for class 12 – 14?
- A. 13
 - B. 2
 - C. 3
 - D. 1

Solution: C

The frequency of the absentees for class interval 12 – 14 is 3.

Answer the question based on the histogram given below:

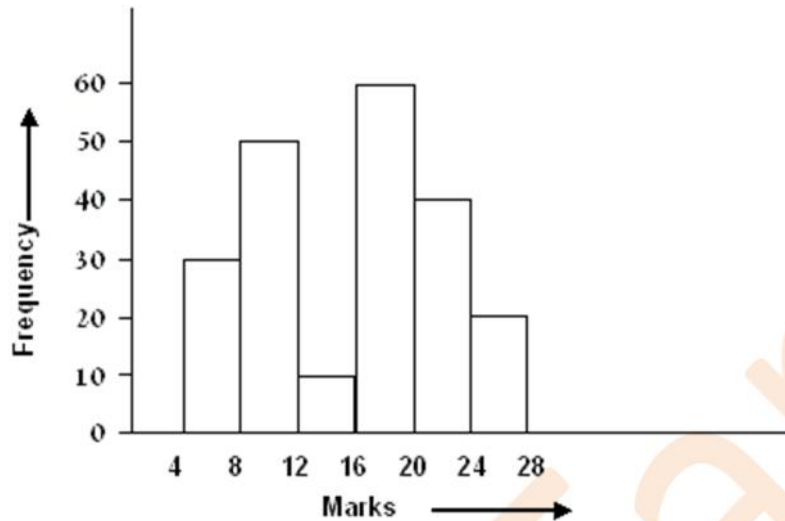


7. Find the marks range that has the highest frequency.
- A. 50 – 60
 - B. 16 – 20
 - C. 20 – 24
 - D. 24 – 28

Solution: B

The frequency of interval 16 – 20 is 60, i.e. the highest.

Answer the question based on the histogram given below:



8. What is the frequency of marks range 4 – 8?
- A. 4
 - B. 12
 - C. 6
 - D. 30

Solution: D

The frequency of interval 4 – 8 is 30.

Answer the question based on the following data.

The marks obtained by 20 students of a class in a mathematics test are as follows:

45	35	60	32	31	52	31	45	39	55
60	52	38	45	31	32	45	62	52	35

9. What is the frequency of students who obtained 52 marks?
- A. 2
 - B. 3
 - C. 6
 - D. 7

Solution: B

The frequency of students who obtained 52 marks is 3 as the number 52 occurs 3 times in the given data.

Answer the question based on the following data.

The marks obtained by 20 students of a class in a mathematics test are as follows:

45	35	60	32	31	52	31	45	39	55
60	52	38	45	31	32	45	62	52	35

- 10.
10. What is the frequency of students who obtained the highest marks?
- A. 6
 - B. 3
 - C. 1
 - D. 2

Solution: C

The highest marks are 62, and the number 62 occurs only once in the given data.

∴ The frequency of the highest marks is 1.

Answer the question based on the following data.

The marks obtained by 20 students of a class in a mathematics test are as follows:

45	35	60	32	31	52	31	45	39	55
60	52	38	45	31	32	45	62	52	35

11. What is the frequency of students who obtained the lowest marks?
- A. 3
 - B. 5
 - C. 2
 - D. 31

Solution: A

The lowest marks are 31 that occur 3 times in the given data.
Therefore, the frequency of the students who obtained the lowest marks is 3.

Answer the question based on the following data.

The marks obtained by 20 students of a class in a mathematics test are as follows:

45 35 60 32 31 52 31 45 39 55
60 52 38 45 31 32 45 62 52 35

12. What is the range of the marks obtained by students?
- A. 45.0
 - B. 31.0
 - C. 46.5
 - D. 15.5

Solution: B

Range of the marks obtained by students
= highest marks – lowest marks
= 62 – 31 = 31

Answer the question based on the following data.

The marks obtained by 20 students of a class in a mathematics test are as follows:

45 35 60 32 31 52 31 45 39 55
60 52 38 45 31 32 45 62 52 35

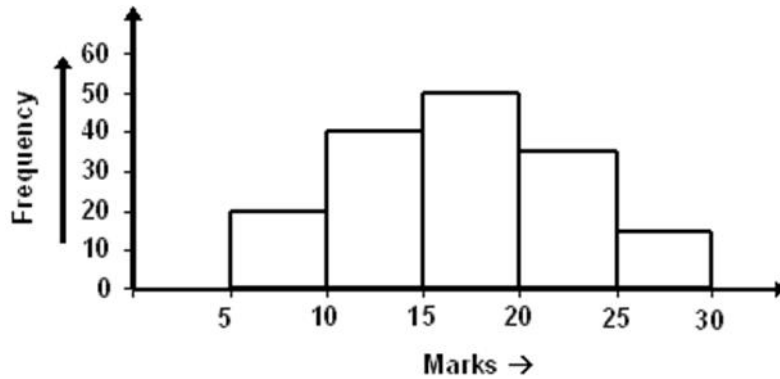
13. The marks obtained by the maximum number of students are ____.
- A. 62
 - B. 31
 - C. 45
 - D. 38

solution: C

Four students obtain 45 marks.

So, marks obtained by the greatest number of students are 45.

Answer the question based on the histogram given below.

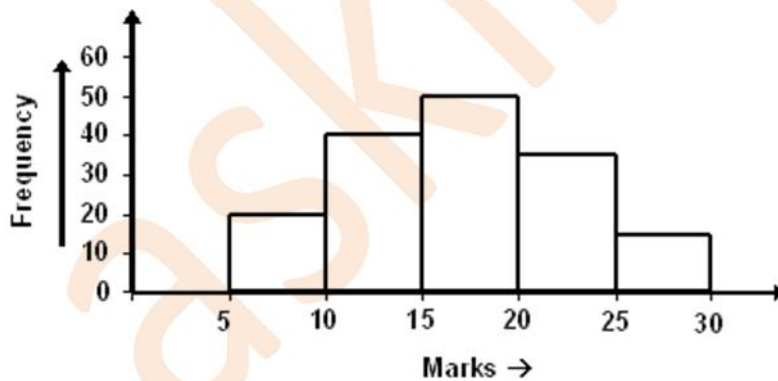


14. What is the range of marks that has the highest frequency?
- A. 50 - 60
 - B. 25 - 30
 - C. 10 - 15
 - D. 15 - 20

Solution: D

The highest frequency is 50, which lies in the marks range of 15 - 20.

Answer the question based on the histogram given below.



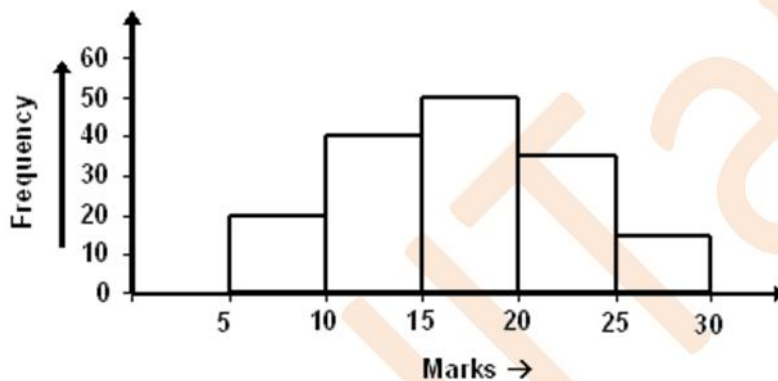
15. Find the marks range that has the minimum frequency.

- A. 0 – 5
- B. 0 – 10
- C. 20 – 25
- D. 25 – 30

Solution: D

The minimum frequency is 10, which lies in the marks range of 25 – 30.

Answer the question based on the histogram given below.



16. What is the class size of each class?

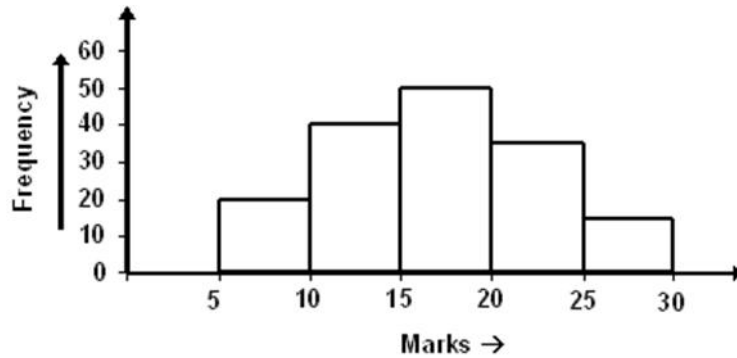
- A. 15.0
- B. 5.0
- C. 2.5
- D. 7.5

Solution: B

Class size of each class = (upper limit – lower limit) of any class

$$= (10 - 5) = 5$$

Answer the question based on the histogram given below.



17. What is the marks range that has a frequency of 40?

- A. 20 – 25
- B. 15 – 20
- C. 10 – 15
- D. 10 – 20

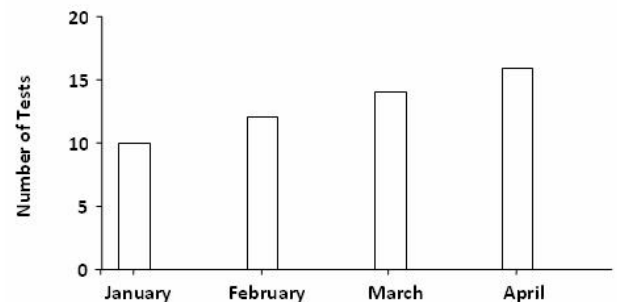
Solution: C

The range of marks that has a frequency of 40 is 10 – 15.

Answer the question based on the bar chart given below:

18. What is the range of tests in the given four months?

- A. 7.5
- B. 15
- C. 5
- D. 10



Solution: C

Range of tests = highest frequency – lowest frequency
 = 16 – 10 = 6

19. Answer the question based on the given table.

Age group	Frequency	Cumulative frequency
3 - 5	2	
5 - 7	4	6
7 - 9	3	
9 - 11	1	X
11 - 13	2	Y
13 - 15	6	

Which of the following options will be the value of X?

- A. 9
- B. 10
- C. 3
- D. 4

Solution: B

$$X = \text{Cumulative frequency of age group } 9 - 11 \\ = 2 + 4 + 3 + 1 = 10$$

[* Cumulative frequency of a class interval is obtained by adding all the frequencies upto that class interval]

20. The following data has been arranged in ascending order. If the median of the data is 16, what is the value of t?

$$8, 11, 13, t + 2, t + 4, 20, 21, 23$$

- A. 14
- B. 13
- C. 12
- D. 10

Solution: B

Right Answer Explanation:

The median of 8, 11, 13, $t + 2$, $t + 4$, 20, 21 and 23 is given by the mean of 4th and 5th term.
Therefore,

$$2t + 6 = 32$$

$$2t = 32 - 6 = 26$$

$$t = 13$$

option B is correct

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