**CBSE Class 11 Mathematics**

**Important Questions**

**Chapter 15**

**Statistics**

**1 Mark Questions**

1. In a test with a minimum marks 25, eleven students scored 3, 9, 5, 3, 12, 10, 17, 4, 7, 19, 21 marks respectively. Calculate the range.
2. Coefficient of variation of two distributions is 70 and 75, and their standard deviations are 28 and 27 respectively. What are their arithmetic means?
3. Write the formula for mean deviation.
4. Write the formula for variance.
5. Find the median for the following data.
6. Write the formula of mean deviation about the median.
7. Find the range of the following series 6, 7, 10, 12, 13, 4, 8, 12.
8. Find the mean of the following data 3, 6, 11, 12, 18.
9. Express in the form of
10. Find the conjugate of
11. Solve for x and y, .
12. Find the value of
13. Multiply by its conjugate.
14. Find the multiplicative inverse .
15. Express in terms of .
16. Evaluate .
17. If are three cube root of unity, show that .
18. Find that sum of product of complex number
19. Write the real and imaginary part
20. If two complex number z1, z2 are such that |z1| = |z2|, is it necessary that
21. Find the conjugate and modulus of
22. Find the number of non-zero integral solution of the equation.
23. If then show that .

**CBSE Class 12 Mathematics**

**Important Questions**

**Chapter**

**Statistics**

**4 Marks Questions**

1. The mean of 2, 7, 4, 6, 8 and p is 7. Find the mean deviation about the median of these observations.
2. Find the mean deviation about the mean for the following data.
3. Find the mean, standard deviation and variance of the first n natural numbers.
4. Find the mean, variance and standard deviation for the following data.

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  | 4 | 8 | 11 | 17 | 20 | 24 | 32 |
|  | 3 | 5 | 9 | 5 | 4 | 3 | 1 |

1. The mean and standard deviation of 6 observations are 8 and 4 respectively. If each observation is multiplied by 3, find the new mean and new standard deviation of the resulting observations.
2. Prove that the standard deviation is independent of any change of origin, but is dependent on the charge of the scale.
3. Calculate the mean deviation about the mean for the following data

Expenditure 0 – 100, 100 – 200, 200 – 300, 300 – 400, 400 – 500, 500 – 600, 600 – 700, 700 – 800.

Persons 4, 8, 9, 10, 7, 5, 4, 3.

1. Find the mean deviation about the median for the following data.

Marks 0 – 10, 10 – 20, 20 – 30, 30 – 40, 40 – 50, 50 – 60

No. of boys 8, 10, 10, 16, 4, 2.

1. Find the mean deviation about the median of the following frequency distribution.

Class 0 – 6, 6 – 12, 12 – 18, 18 – 24, 24 – 30

Frequency 8, 10, 12, 9, 5.

1. Calculate the mean deviation from the median from the following data:

Salary per week (in Rs) 10 – 20, 20 – 30, 30 – 40, 40 – 50, 50 – 60, 60 – 70, 70 – 80

No. of workers 4, 6, 10, 20, 10, 6, 4

1. Let x1, x2…………..xn values of a variable Y and let ‘a’ be a non zero real number. Then prove that the variance of the observations ay1, ay2………ayn is. Also find their standard deviation.
2. If . Prove that .
3. If then show that .
4. Solve
5. Find the modulus
6. If . Prove that .
7. Evaluate
8. Find the modulus and argument .
9. For what real value of x and y are numbers equal .
10. If prove that .
11. Convert in the polar form .
12. Find the real values of x and y if is the conjugate of .
13. If prova that .

**CBSE Class 12 Mathematics**

**Important Questions**

**Chapter**

**Statistics**

**6 Marks Questions**

1. Calculate the mean, variance and standard deviation of the following data:

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Class | 30 – 40 | 40 – 50 | 50 – 60 | 60 – 70 | 70 – 80 | 80 – 90 | 90 – 100 |
| Frequency | 3 | 7 | 12 | 15 | 8 | 3 | 2 |

1. The mean and the standard deviation of 100 observations were calculated as 40 and 5.1 respectively by a student who mistook one observation as 50 instead of 40. What are the correct mean and standard deviation?
2. 200 candidates the mean and standard deviation was found to be 10 and 15 respectively. After that if was found that the scale 43 was misread as 34. Find the correct mean and correct S.D.
3. Find the mean deviation from the mean 6, 7, 10, 12, 13, 4, 8 and 20.
4. Find two numbers such that their sum is 6 and the product is 14.
5. Convert into polar form .
6. If are different complex number with Then find .