MATHS
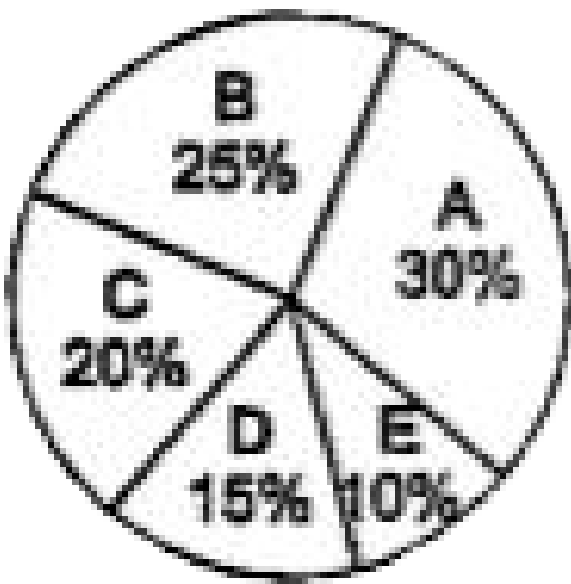
BOOKS - ARIHANT PUBLICATION JHARKHAND

STATISTICS

Solved Examples

1. The following diagram show the expenditure of a family on various Items A ,B,C, D and E .

Study the diagram carefully and answer the following questions .

The angle of pie diagram showing the expenditure incurred on item A is

A. $30°$

B. $35°$

C. $108°$

D. None of these
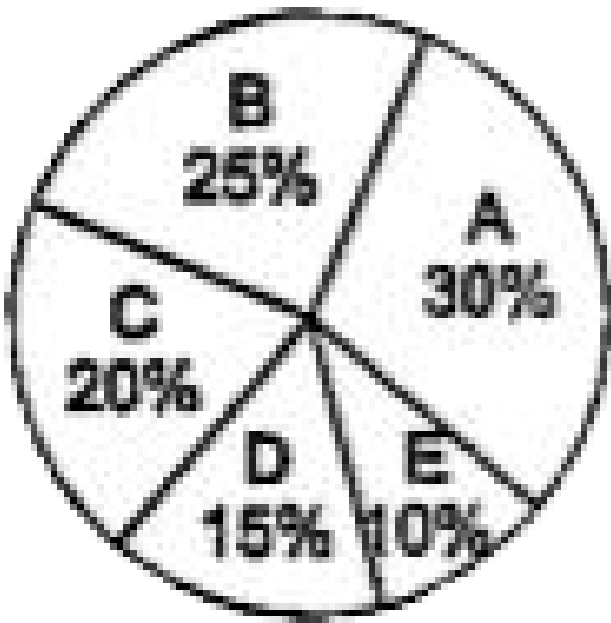
Answer: C

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2. The following diagram show the expenditure of a family on various Items A ,B,C, D and E .

Study the diagram carefully and answer the following questions .

Which two expenditure together will form an angle of $90°$ at the centre of pie diagram ?

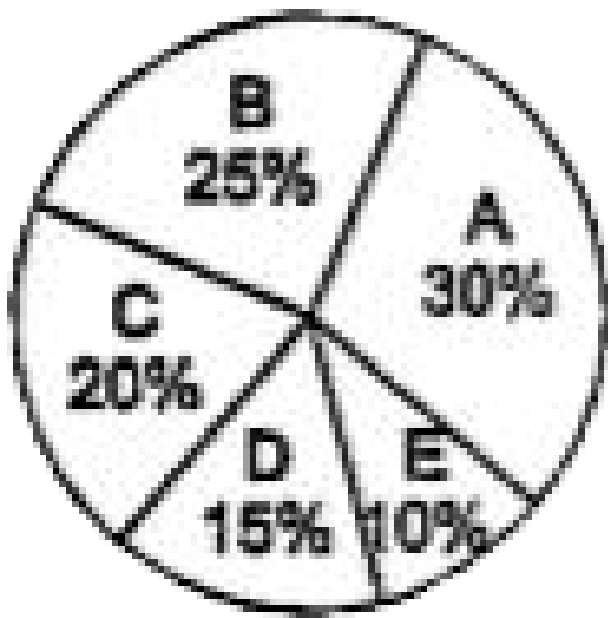A. D and E

B. A and D

C. A and E

D. D and C

Answer: A

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3. The following diagram show the expenditure of a family on various Items A ,B,C, D and E .

Study the diagram carefully and answer the following questions .

If the income of the family is Rs 3000 per month then expenditure on item C will be

A. Rs 400

B. Rs 500

C. Rs 600

D. Rs 800

Answer: C

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4. If the arithmetic mean of 6,8,5,7,p and 4 is 7

then the value of p

A. 10

B. 12

C. 15

D. 20

Answer: B

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5. The mean of the following data is

Class Interval	25-35	35-45	45-55	55-65	65-75
Frequency	6	10	8	12	4

A. 49.5

B. 50.5

C. 51.5

D. 55.5

Answer: A

6. The mean of the following distribution is

x	4	7	10	13	16	19	22
f	23	25	27	29	27	25	23

A. 10

B. 13

C. 12

D. 15

Answer: B

7. The median of the following data is

25,34,31,23,22,26,35,29,20,32

A. 27.5

B. 29.5

C. 22.5

D. None of these

Answer: A

8. The median of the frequency distribution is

Marks obtained	Number of students	Cumulative frequency
15-20	6	6
20-25	7	13
25-30	9	22
30-35	8	30
35-40	10	40

A. 28.88

B. 30.88

C. 35.88

D. None of these

Answer: A

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9. The sum of deviations of a set of values $x_1, x_2, x_3, \ldots \ldots x_n$ measured from 50 is -10

and the sum of deviations of the values from 46 is 70. Find the value of n and the mean.

A. 20,49.5

B. 25,49.6

C. 30,50.5

D. 35,50.6

Answer: A

10. The mean deviation from the mean for the following data is

Class Interval	Frequency
10-20	2
20-30	3
30-40	8
40-50	14
50-60	8
60-70	3
70-80	2

A. 5

B. 10

C. 15

D. 20

Answer: B

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Exam Booster For Cracking Exam

1. The most stable measure of central tendency is

A. median

B. mean

C. mode

D. None of these

Answer: B

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2. The measure which takes into account all the data items is

A. mean

B. frequency

C. mode

D. median

Answer: A

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3. Frequency polygon can be drawn after drawing

A. ogive

B. bar chart

C. histogram

D. None of these

Answer: C

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4. Pie chart is drawn with the help of

A. radius of the circle

B. chords of the circle

C. sectors of the circle

D. diameter of the circle

Answer: C

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5. The total expenditure incurred by an industry under different heads is best presented as a

A. pie diagram

B. histogram

C. frequency polygon

D. bar graph

Answer: A

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6. The mid value of a class interval is 42. If the class size is 10 then the upper and lower limits of the class are

A. 37.5 and 47.5

B. 47 and 37

C. 37 and 47

D. 47.5 and 37.5

Answer: B

7. If the mean of five observations x, (x+2) , (x+4) ,(x+6) and (x+8) is 11 , then the mean of first three observations is

A. 9

B. 11

C. 13

D. None of these

Answer: A

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8. The standard deviation for the data

7,9,11,13,15, is

A. 2.4

B. 2.5

C. 2.7

D. 2.82

Answer: D

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9. Consider the table given below

Marks	Number of students
0-10	12
10-20	18
20-30	27
30-40	20
40-50	17
50-60	6

The arithmetic mean of the marks given above is

A. 6

B. 18

C. 28

D. 27

Answer: C

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10. The mean deviation of the following distribution is

x	10	11	12	13	14
f	3	12	18	12	3

A. 11.5

B. 0.75

C. 1.25

D. 26

Answer: B

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11. In a class of 50 students 10 have failed and their average marks are 28. The total marks obtained by the entire class are 2800. The average marks of those who have passed is

A. 280

B. 2520

C. 63

D. None of these

Answer: C

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12. If the mean of the following data is 13.5 ,

then the value of p is

x	5	10	p	20	25
f	10	10	10	2	8

A. 15

B. 150

C. 10

D. None of these

Answer: A

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13. The mean of the values of $1, 2, 3, \ldots n$ with respectively frequencies $x, 2x, 3x, \ldots, nx$ is:

A. (2x+1)

B. x(x+1)(2x+1)

C. $\dfrac{(2x + 1)}{3}$

D. None of these

Answer: C

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14. The distribution consists of three components with frequencies 45 , 40 and 15 having their means 2,2.5 and 2 respectively . The mean of the combined distribution is

A. 220

B. 2.2

C. 100

D. 45

Answer: B

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15. The value of median from the following data is

x	100	150	80	200	250	180
f	24	26	16	20	6	30

A. 153

B. 150

C. 180

D. None of these

Answer: B

16. Read the following pie diagrams carefully and answer the questions that follow .

Following two pie diagrams show the religion were distribution of workers in two states.
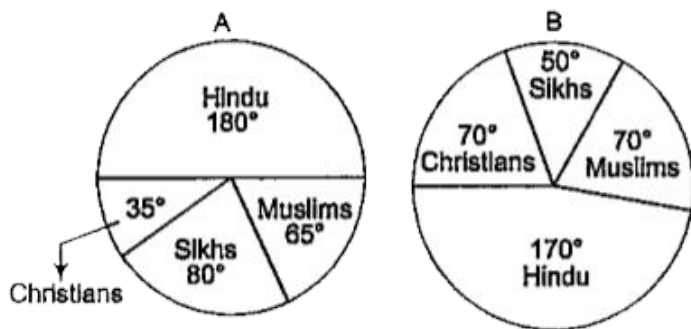
The percentage of Hindus in state A is
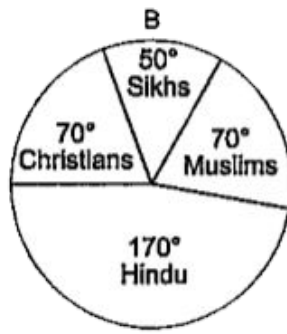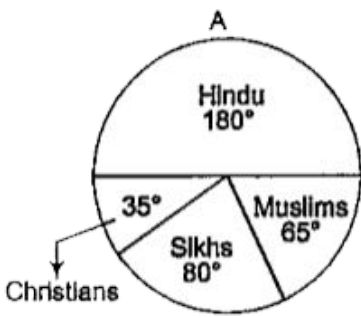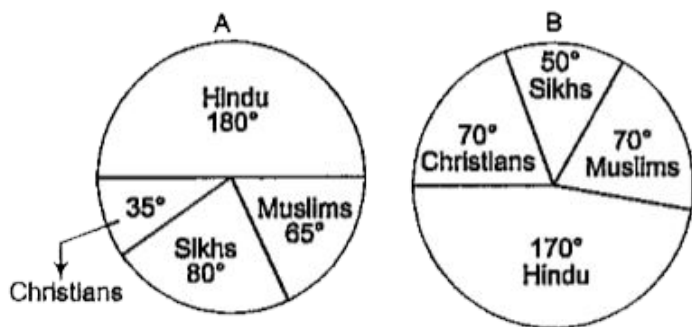
A. 50

B. 30

C. 18

D. None of these

Answer: A

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17. Read the following pie diagrams carefully and answer the questions that follow . Following two pie diagrams show the religion were distribution of workers in two states.

A

Hindu
180°

35°

Muslims
65°

Sikhs
80°

Christians

B

50°
Sikhs

70°
Christians

70°
Muslims

170°
Hindu

The percentage of Muslims in state B is

A. 19

B. 7

C. 19.44

D. None of these

Answer: C

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18. Read the following pie diagrams carefully and answer the questions that follow .

Following two pie diagrams show the religion were distribution of workers in two states.

The percentage difference between Sikh population in the two states is

A. 8

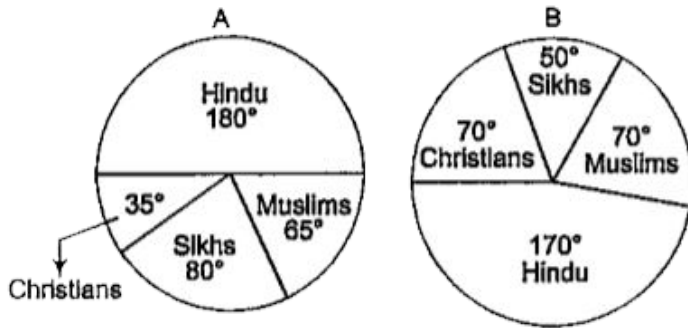B. 8.33

C. 0.0033

D. 0.8

Answer: B

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19. Following two pie diagrams show the religion were distribution of workers in two states.

The percentage difference between Hindu

population in state A and Muslims population

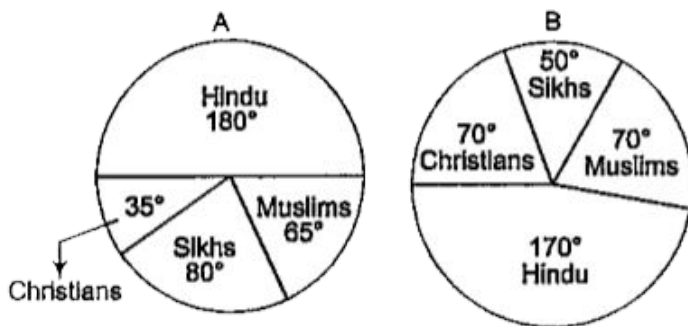in state B is

A. 30.55 %

B. 25.5 %

C. 55 %

D. 11 %

Answer: A

20. Read the following pie diagrams carefully and answer the questions that follow . Following two pie diagrams show the religion were distribution of workers in two states.

The percentage difference between Christians

population in state A and Sikha population in state B is

A. 4.17

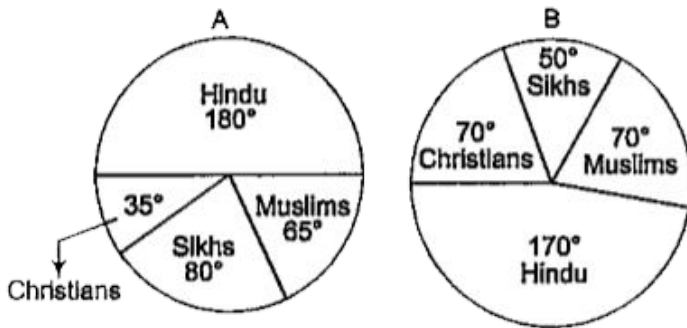B. 0.15

C. 0.3

D. 0.45

Answer: A

21. Following two pie diagrams show the religion distribution of workers in two states. If the population of the state B is 540000, then the Muslims population is

A

Hindu
180°

35°

Sikhs
80°

Muslims
65°

Christians

B

50°
Sikhs

70°
Christians

70°
Muslims

170°
Hindu

A. 105000

B. 5400

C. 36000

D. 70000

22. Average score of 50 students in a class is 44. Later on it was found that the score 23 was incorrectly recorded as 73 . The correct average score is

A. 21.5

B. 0.5

C. 43

D. None of these

Answer: C

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23. A candidate obtains the marks in subjects

English 60 Hindi 75 , Mathematics 63 , Physics

59 and Chemistry 55 . In the weights of 1,2,1,3,3

respectively are alloted to the subjects then the candidates weighted mean is

A. 59

B. 615

C. 10

D. 61.5

Answer: D

24. The mean of the squares of the numbers

1,2,3,4, · · · n is

A. $\dfrac{1}{6}(n + 1)(2n + 1)$

B. $\dfrac{1}{6}(n + 1)$

C. $\dfrac{1}{6}(2n + 1)$

D. None of these

Answer: A

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25. If the variance of a data is 121 ,then the standard deviation of the data is ....

A. 11

B. 12

C. 121

D. $\sqrt{11}$

Answer: A

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