MATHS

BOOKS - GURUKUL BOOKS & PACKAGING MATHS (HINGLISH)

ALGEBRA JULY 2017

Questions

1. Write the next two terms of the A.P. 2,5,8,11, ...

2. Write the quadratic equation $7 = 4x - x^2$ in the form of $ax^2 + bx + c = 0$

3. Find the value of the determinant : $\begin{vmatrix} -3 & 8 \\ 6 & 0 \end{vmatrix}$

4. A coin is tossed. For this random experiment write the sample space and find n(S).

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5. Find the class mark of the class 10 -20.

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6. For the quadratic equation $3x^2 + 2x - 1 = 0$, find the value of the discriminant.

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7. Write the 25th term of an A.P. 12, 16, 20, 24, ...

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8. Find k, one of the roots of the quadratic equation $kx^2 - 7x + 12 = 0$ is 3.

9. For solving the following simultaneous equations by Cramer's rule, find the value of D_x and D_y : $3x - y = 7$, $x + 4y = 11$.

10. If two coins are tossed, then find the probability of the event: No head turns up

11. For a certain frequency distribution, the value of Mean is 101 and Median is 100. Find the value of Mode.
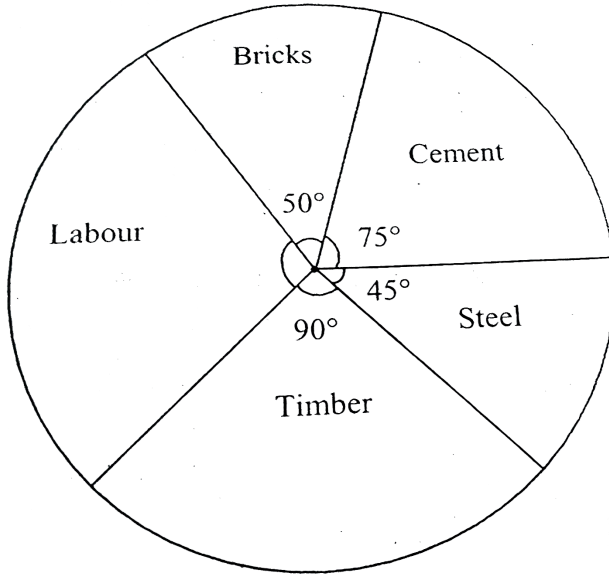
12. The following pie diagram represents expenditure on different items in constructing a building. If the total construction cost of building is Rs. 5,40,000, answer the following questions:

a. Find the central angle for labour expenditure.

b. Find the expenditure on labour.

13. Solve the following quadratic equation by completing square: $z^2 + 4z - 7 = 0$.

14. Two dice are thrown. Find the probability of the following events:

Event A : The product of the numbers on their upper faces is 10.

Event B : The sum of the numbers on their upper faces is multiple of 9.

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15. Area under different crops in a certain village is given below. Represent it by pie diagram:

Crop	Area (in hectare)
Jowar	8000
Wheat	6000
Sugarcane	2000
Vegetable	2000

16. Draw the frequency polygon for the following frequency distribution:

Class	Frequency
10 – 20	02
20 – 30	08
30 – 40	10
40 – 50	05
50 – 60	04

17. In a certain race there are three girls X, Y, Z. The winning probability of X is twice than Y and the winning probability of Y is twice than Z. If P(X) + P(Y) + P(Z) = 1, then find the winning probability of each girl.

18. If the second term and the fourth terms of an A.P. are 12 and 20 respectively, then find the sum of first 25 terms:

19. Solve the following simultaneous equations:

$$\frac{27}{x-2} + \frac{31}{y+3} = 85, \quad \frac{31}{x-2} + \frac{27}{y+3} = 89$$

20. The product of four consecutive positive integers is 840. Find the numbers.

21. A three digit number is equal to 17 times the sum of its digits. If 198 is added to the number, the digits are interchange. The addition of first and third digit is 1 less than middle digit. find the number.

22. Find the sum of all numbers from 50 to 350 which are divisible by 4. Also find 15th term.

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