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PERIODIC TEST – 1 (2023-24) CLASS – X MATHEMATICS

T.T. 1:30 *M.M. 40*

SECTION – A(1 marks each)

Q1. The HCF of 52 and 130 is (a) 52 (b) 130 (c) 26 (d) 13

Q2.The prime factorisation of 96 is: (a) $2^5 \times 3$ (b) 2^6 (c) $2^4 \times 3$ (d) $2^4 \times 32$

Q3. Which are the zeroes of p(x) = x^2 + 3x – 10 :

(a) 5, –2 (b) –5, 2 (c) –5, –2 (d) none of these.

Q4. A quadratic polynomial whose sum and product of zeroes are –5 and 6 is……..

(a) x^2 – 5x – 6 (b) x^2 + 5x – 6 (c) x^2 + 5x + 6 (d) none of the above.

Q5. The pair of equations 3x + 4y = 18 and 4x + $\frac{16}{3}$y =24 has…….

(a) infinite number of solutions (b) unique solution (c) no solution (d) cannot say anything.

Q6. Express number as a product of its prime factors: (i) 7429.

Q7. If -1 is a zero of the polynomial x2 – 7x – 8, then the find other zero.

Q8. The graph of an equation y = -3 is a line which will be:

(a) parallel to x-axis (b) parallel to y-axis

(c) passing through origin (d) on x-axis

Q9. . The relationship between mean, median and mode for a moderately skewed distribution is

(A). mode = median – 2 mean (B)mode = 3 median – 2 mean

(C) mode = 2 median – 3 mean (D)mode = median – mean.

Q10. On comparing the ratios $\frac{a1}{a2}$, $\frac{b1}{b2}$ and $\frac{c1}{c2}$, find out whether the following pair of linear equations are consistent, or inconsistent.

$\frac{4}{3}$x + 2y=8 and 2x+3y =12.

SECTION – B(2 marks each)

Q11.If HCF(6, a) = 2 and LCM(6, a) = 60 then find the value of a.

Q12. Solve the following pair of linear equations

7x – 15y = 2 and x + 2y = 3.

Q13.The given distribution shows the number of runs scored by some top batsmen of the world in one-day international cricket matches. Find the mode of the data.

Runs scored	Number of batsmen
3000 - 4000	4
4000 - 5000	18
5000 - 6000	9
6000 - 7000	7
7000 - 8000	6
8000 - 9000	3
9000 - 10000	1
10000 - 11000	1

SECTION – C(3 marks each)

Q14. Prove that $\sqrt{2}$ is an irrational number.

Q15. A survey regarding the heights (in cm) of 51 girls of Class X of a school was conducted and the following data was obtained: Find the median height.

Height (in cm)	Number of girls
Less than 140	4
Less than 145	11
Less than 150	29
Less than 155	40
Less than 160	46
Less than 165	51

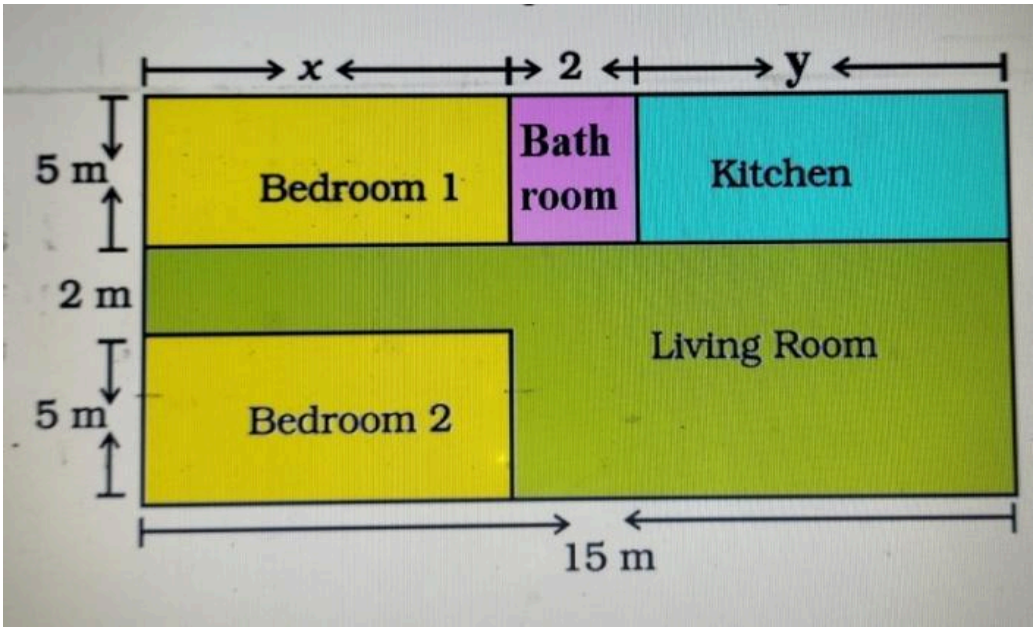
Q16. Meena went to a bank to withdraw Rs. 2000. She asked the cashier to give her Rs.50 and Rs.100 notes only. Meena got 25 notes in all. Find how many notes of Rs. 50 and Rs.100 she received.

Q17. The coach of a cricket team buys 7 bats and 6 balls for ` 3800. Later, she buys 3 bats and 5 balls for ` 1750. Find the cost of each bat and each ball.

SECTION – D(4 marks each)

CCT1

Q18.In the below given layout, the design and measurements has been made such that area of two bedrooms and Kitchen together is 95 sq. m.



(i) The area of two bedrooms and kitchen are respectively equal to……

(a) 5x, 5y (b) 10x, 5y (c) 5x, 10y (c) x, y

(ii) Find the length of the outer boundary of the layout.

(a) 27 m (b) 15 m (c) 50 m (d) 54 m

(iii) Find the area of each bedroom.

(a) 30 sq. m (b) 35 sq. m (c) 65 sq. m (d) 42 sq. m

(iv) Find the cost of laying tiles in Kitchen at the rate of Rs. 50 per sq. m

(a) Rs. 1500 (b) Rs. 2000 (c) Rs. 1750 (d) Rs. 3000.

Q19.The median of the following data is 525. Find the values of x and y, if the total frequency is 100.

Class intervals	Frequency
0 - 100	2
100 - 200	5
200 - 300	x
300 - 400	12
400 - 500	17
500 - 600	20
600 - 700	y
700 - 800	9
800 - 900	7
900 - 1000	4

Q20.

Consider the following distribution of daily wages of 50 workers of a factory.

Daily wages (in ₹)	500 - 520	520 -540	540 - 560	560 - 580	580 -600
Number of workers	12	14	8	6	10

Find the mean daily wages of the workers of the factory by using an appropriate method.

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