KENDRIYA VIDYALAYA SITAPUR FIRST SHIFT

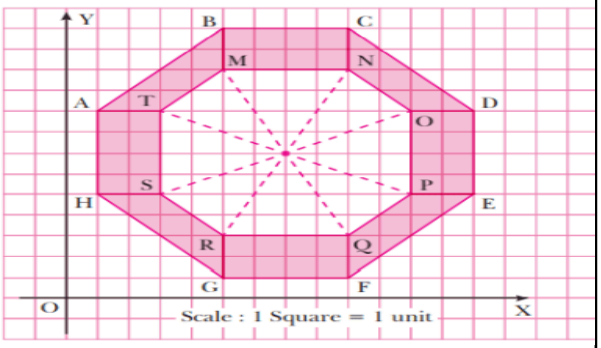
PERIODIC TEST-2 (2022-2023)

CLASS- X (MATHEMATICS)

TOTAL MARKS:-40 **TIME:-90 MIN**

INSTRUCTIONS:-1- ALL QUESTIONS ARE COMPULSORY.

QUESTION NUMBER	SECTION-A MCQ (11X1=11)	MARK
Q.1:-	If the LCM of a and 18 is 36 and the HCF of a and 18 is 2, then a = (a) 2 (b) 3 (c) 4 (d) 1	1
Q.2:-	If p and q are co-prime numbers, then p2 and q2 are (a) co-prime (b) not co-prime (c) even (d) odd	1
Q.3:-	If one root of the polynomial f(x) = 5x2 + 13x + k is reciprocal of the other, then the value of k is (a) 0 (b) 5 (c) 1/6 (d) 6	1
Q.4:-	What should be added to the polynomial x2 – 5x + 4, so that 3 is the zero of the resulting polynomial ? (a) 1 (b) 2 (c) 4 (d) 5	1
Q.5:-	The value of k for which the system of equations 2x + 3y = 5, 4x + ky = 10 has infinitely number of solutions, is (a) 1 (b) 3 (c) 6 (d) 0	1
Q.6:-	If the system of equations 3x + y = 1 , (2k – 1) x + (k – 1) y = 2k + 1 is inconsistant, then k = (a) 1 (b) 0 (c) -1 (d) 2	1
Q.7:-	If x = 1 is a common root of the equations ax2 + ax + 3 = 0 and x2 + x + b = 0, then ab = (a) 3 (b) 3.5 (c) 6 (d) -3	1
Q.8:-	The first three terms of an A.P. respectively are 3y – 1, 3y + 5 and 5y + 1. Then, y equals (a) -3 (b) 4 (c) 5 (d) 2	1
Q.9:-	If the distance between the points (4, p) and (1, 0) is 5, then p = (a) ±4 (b) 4 (c) -4 (d) 0	1
Q.10:-	The point on the x-axis which is equidistant from points (-1, 0) and (5, 0) is (a) (0, 2) (b) (2, 0) (c) (3, 0) (d) (0, 3)	1
Q.11:-	If $\triangle ABC$ and $\triangle DEF$ are similar such that 2AB = DE and BC = 8 cm, then EF = (a) 16 cm (b) 12 cm (c) 8 cm (d) 4 cm	1
	SECTION-B VSA (4X1=4)	
Q.12:-	How many quadratics are there whose zeroes are -3 and 4	1
Q.13:-	What is the common difference of an AP in which $a_{21}-a_7$ =84 ?	1
Q.14:-	In triangle PQR ,S and T are the points on the sides PQ and PR respectively, such that ST II QR . If PS= 4cm ,PQ= 9cm and PR=4.5 CM ,Then find PT.?	1
Q.15:-	Find the distance of the point P(-3 , 4) from the X-axis.	1
	SECTION-C CASE STUDY BASED	
Q.16:-	Rishu gets pocket money from his father everyday. Out of the pocket money, he saves Rs 2.75 on first day, Rs 3 on second day, Rs 3.25 on third day and so on. On the basis of above information, answer the following questions . 	
(A)	What is the amount saved by Rishu on 14th day? (a) Rs 6.25 (b) Rs 6 (c) Rs 6.50 (d) Rs 6.75	1
(B)	What is the total amount saved by rishu in 8 days? (a) Rs 18 (b) Rs 33 (c) Rs 24 (d) Rs 29	1
(C)	What is the amount saved by rishu on 30th day? (a) Rs 10 (b) Rs 12.75 (c) Rs 10.25 (d) Rs 9.75	1
(D)	What is the total amount saved by him in the month of June, if he starts savings from 1st June? (a) Rs 191 (b) Rs 191.25 (c) Rs 192 (d) Rs 192.5	1
(E)	On which day, he save tens times as much as he saved on day-I? (a) 9th (b) 99th (c) 10th (d) 100th	1

Q.17:-	**The top of a table is shown in the figure given below:**   	
(A)	**The coordinates of the points H and G are respectively** **(a) (1, 5), (5, 1) (b) (0, 5), (5, 0) (c) (1, 5), (5, 0) (d) (5, 1), (1, 5)**	**1**
(B)	**The distance between the points A and B is** **(a) 4 units (b) 4 2 units (c) 16 units (d) 32 units**	**1**
(C)	**The coordinates of the mid point of line segment joining points M and Q are** **(a) (9, 3) (b) (5, 11) (c) (14, 14) (d) (7, 7)**	**1**
(D)	**Which among the following have same ordinate?** **(a) H and A (b) T and O (c) R and M (d) N and R**	**1**
	SECTION-D SHORT/ LONG ANSWER	
Q.18:-	**Find the HCF of 1260 and 7344**	**2**
Q.19:-	**Find the zeroes of the following quadratic polynomials and verify the relationship between the zeroes and the coefficients. (i) 4s2– 4s + 1**	**3**
Q.20:-	**If the sum of the first n terms of an AP is $4n - n^2$, what is the first term (that is S1)? What is the sum of first two terms? What is the second term? Similarly, find the 3rd, the 10th and the nth terms?**	**3**
Q.21:-	**A vertical stick which is 15 cm long cast a 12cm long shadow on ground .At the same time, a vertical tower casts a 50 m long shadow on the ground .Find the height of the tower.**	**3**
Q.22:-	**ABCD is a trapezium in which AB || DC and its diagonals intersect each other at the point O. Show that AO/BO=CO/DO·**	**5**