

KENDRIYA VIDYALAYA SANGATHAN, HYDERABAD REGION
SAMPLE PAPER 01 FOR PERIODIC TEST-II (2017-18)

SUBJECT: MATHEMATICS(041)

BLUE PRINT FOR PERIODIC TEST-II: CLASS IX

Chapter	VSA (1 mark)	SA – I (2 marks)	SA – II (3 marks)	LA (4 marks)	Total
Number System	1(1)	2(1)	--	--	3(2)
Polynomials	1(1)	--	--	4(1)	5(2)
Coordinate Geometry	--	--	3(1)	--	3(1)
Linear Equation in two variables	1(1)	2(1)	--	--	3(2)
Introduction to Euclid's Geometry	--	--	3(1)	--	3(1)
Lines and Angles	1(1)	--	3(1)	--	4(2)
Triangles	--	2(1)	--	4(1)	6(2)
Quadrilaterals	--	2(1)	--	4(1)	6(2)
Areas of Parallelograms and triangles	--	--	3(1)	4(1)	7(2)
Total	4(4)	8(4)	12(4)	16(4)	40(16)

MARKING SCHEME FOR PERIODIC TEST-II (2017-18)

SECTION	MARKS	NO. OF QUESTIONS	TOTAL
VSA	1	4	04
SA – I	2	4	08
SA – II	3	4	12
LA	4	4	16
GRAND TOTAL			40

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SUBJECT: MATHEMATICS
CLASS : IX

MAX. MARKS : 40
DURATION : 1½ HRS

General Instructions:

- (i). All questions are compulsory.
- (ii). This question paper contains **16** questions divided into four Sections A, B, C and D.
- (iii). **Section A** comprises of 4 questions of **1 mark** each. **Section B** comprises of 4 questions of **2 marks** each. **Section C** comprises of 4 questions of **3 marks** each and **Section D** comprises of 4 questions of **4 marks** each.
- (iv). Use of Calculators is not permitted

SECTION – A

1. Rationalize the denominator of $\frac{3 - \sqrt{2}}{3 + \sqrt{2}}$.
2. Find the value of k , if $x = 2, y = 1$ is a solution of the equation $2x + 3y = k$.
3. One of the angles of a triangle is 50° and the other two angles are equal. Find the measure of each of the equal angles.
4. If $x + 6$ is a factor of $p(x) = x^3 + 3x^2 + 4x + k$, find the value of k .

SECTION – B

5. If a and b are rational numbers and $\frac{7 - 4\sqrt{3}}{7 + 4\sqrt{3}} = a + b\sqrt{3}$, find the values of a and b .
6. The angles of quadrilateral are in the ratio $3 : 5 : 9 : 13$. Find all the angles of the quadrilateral.
7. Solve the equation $2x + 1 = x - 3$, and represent the solution(s) on
(i) the number line,
(ii) the Cartesian plane.
8. $\triangle ABC$ is right angled in which $\angle A = 90^\circ$ and $AB = AC$. Find $\angle B$ and $\angle C$.

SECTION – C

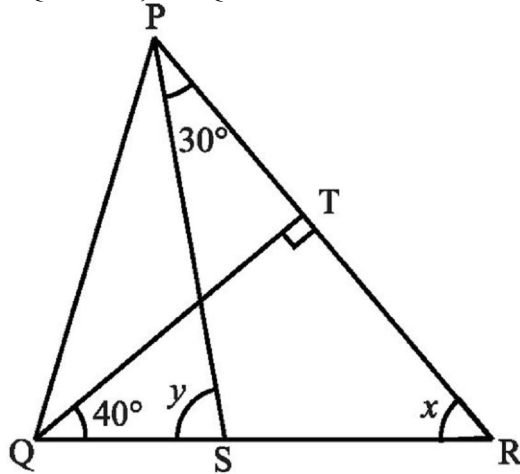
9. Plot the following points on a graph paper:

x	1	2	3	4	5
y	5	8	11	14	17

Join these points. What do you observe?

10. If a point C lies between two points A and B such that $AC = BC$, then prove that $AC = \frac{1}{2} AB$.
Explain by drawing the figure.
11. Show that the diagonals of a parallelogram divide it into four triangles of equal area.

12. In the above sided figure, if $QT \perp PR$, $\angle TQR = 40^\circ$ and $\angle SPR = 30^\circ$, find x and y .



SECTION – D

13. If in two right triangles, hypotenuse and one side of a triangle are equal to the hypotenuse and one side of other triangle, prove that the two triangles are congruent
14. The polynomial $f(x) = x^4 - 2x^3 + 3x^2 - ax + b$ when divided by $(x - 1)$ and $(x + 1)$ leaves the remainders 5 and 19 respectively. Find the values of a and b . Hence, find the remainder when $f(x)$ is divided by $(x - 3)$.
15. ABCD is a rectangle and P, Q, R and S are mid-points of the sides AB, BC, CD and DA respectively. Show that the quadrilateral PQRS is a rhombus.
16. In the below figure, P is a point in the interior of a parallelogram ABCD. Show that
- (i) $\text{ar}(\text{APB}) + \text{ar}(\text{PCD}) = \frac{1}{2} \text{ar}(\text{ABCD})$
- (ii) $\text{ar}(\text{APD}) + \text{ar}(\text{PBC}) = \text{ar}(\text{APB}) + \text{ar}(\text{PCD})$

