BK BIRLA CENTRE FOR EDUCATION

SARALA BIRLA GROUP OF SCHOOLS
SENIOR SECONDARY CO-ED DAY CUM BOYS' RESIDENTIAL SCHOOL

PERIODIC TEST-2 (2025)

MATHEMATICS
MARKING SCHEME

Class : IX | Duration : 1 Hr
Date : 04-11-2025 | Max. Marks : 25

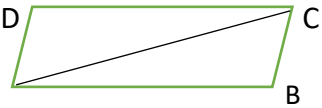
I. MCQ (1 mark each)

1. $a \neq 0$, $b \neq 0$ (D)
2. -1 (B)
3. None of these (D)
4. 40^0 (B)
5. Trapezium (C)

6. $-5x + 3y - 10 = 0$, a = -5 , b= 3 and c = -10 ½
   $3x + 0y + 2 = 0$, a = 3 , b= 0 and c = 2 ½
   $2x + 7y + 0 = 0$, a = 2 , b= 7 and c = 0 ½
   $5x + 0y + 6 = 0$, a = 5 , b= 0 and c = 5 ½

7. 3x – 2y + 5 = 0
   3 (3 a + 1) – 2 (2 a – 1) = 0 ½
   9 a + 3 – 4 a + 2 = ½
   5 a = - 5 ½
   ∴ **a = -1** **½**

8. Given : ABCD be a parallelogram with diagonal **AC**.
   To Prove: ΔABC ≅ ΔCDA



   Proof : In **ΔABC** and **ΔCDA**:
   AB = DC (Opposite sides of parallelogram) ½
   AC = CA (Common side) ½
   ∠ BAC = ∠ DCA Alternate interior angles ½
   ΔABC≅ΔCDA SAS Congruence rule ½

9. Let the angles be: $2x, 5x, 4x, and\ 1x$ ½
   $2x + 5x + 4x + x = 360^0$
   $x = 30^0$ ½
   $2x = 60$, $5x = 150$, $4x = 120$ $1x = 30^0$ 1

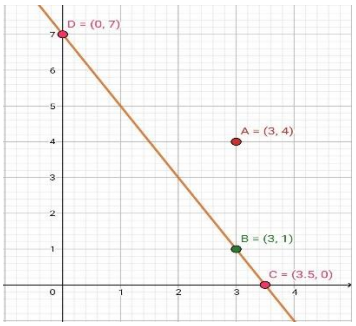
10. Let the cost of the pen = Rs x and that of pen is Rs y
    $x = 2y$ ½
    $x - 2y = 0$ ½

b) Find four different solution of the equation : $x + 2y = 6$

For correct solution : 4 x ½

11. Draw the graph of the equation. $2x + y = 7$

x	0	1	2
y	7	5	3



1 + 2

12. In ΔAPD ≅ ΔCQB

AD = BC	Opposite sides of a parallelogram are equal.	½
∠ADP = ∠CBQ:	Alternate interior angle	½
DP = BQ:	Given.	
ΔAPD ≅ ΔCQB.	SAS congruence rule,	½
ii) AP = CQ	CPCT	½

iii) In ΔAQB ≅ ΔCPD

AB = CD	Opposite sides .	
∠ABQ = ∠CDP	Alternate interior angles	½
BQ = DP	Given.	
ΔAQB ≅ ΔCPD.	SAS congruence rule,	½
(iv) AQ = CP	CPCT	

13. ABCD is a parallelogram.

Hence, AE || FC

AB = CD Opposite sides

$\frac{1}{2}$ AB = $\frac{1}{2}$ CD ½

AE = FC (E and F are mid-points of side AB and CD)

Therefore, AECF is a parallelogram. ½

In ΔDQC,

F is the mid-point of side DC and FP ||CQ ½

∴ DP = PQ ---------- (1)

In ΔAPB,

E is the mid-point of side AB and thus, EQ || AP ½

∴ PQ = QB ---------- (2) ½

From equations (1) and (2),

DP = PQ = BQ ½

Hence, the line segments AF and EC trisect the diagonal BD.

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