Directorate of Education, GNCT of Delhi

Marking Scheme of Practice Paper – I

Class – IX

Mathematics (Code: 041)

Maximum Marks: 40 **Time Duration: 90 minutes**

Q. No.	Correct option	Hint/ Solution
1.	**(c)**	A reflex angle is more than 180° and less than 360^0.
2.	**(c)**	Let sides of triangle be 2x, x and 3x. $\therefore 2x + x + 3x = 24$ $\Rightarrow x = 4$ So, the length of longest side of triangle is 12 cm.
3.	**(d)**	The product of a rational and an irrational number is sometimes rational and sometimes irrational.
4.	**(a)**	Let angles be 10x and 8x. A.T.Q. $10x + 8x = 90^0$ $x = 5^0$ so, angles are 50^0 and 40^0.
5.	**(c)**	$\sqrt{5}$ is an irrational number.
6.	**(c)**	SSA is not a criterion for congruence of triangles.
7.	**(b)**	Third side = 42 – 18 – 10 = 14 cm S = 21 cm $A=\sqrt{21\ (21-18)(21-10)(21-14)}$ $= 21\sqrt{11}$ cm²
8.	**(a)**	AB = AC ⇒ ∠C = ∠ B But ∠C = ∠P and ∠B = ∠Q (Given) ∴ ∠P = ∠Q ⇒ QR = PR ∴ PQR is isosceles triangle.
9.	**(a)**	Let $x = 0\cdot\overline{35}$ $100\ x = 35\cdot\overline{35}$ $\therefore 99\ x = 35$ So, $x = \frac{35}{99}$
10.	**(c)**	91 – 6 = 85
11.	**(c)**	y = 5 ∴ y – 5 = 0
12.	**(b)**	k(3) – 3(-2) = 12 k = 2
13.	**(a)**	Class size is 20 – 15 = 5 ∴ class corresponding to the class mark 15 is 12.5 – 17.5.
14.	**(c)**	BC = AB ⇒ ∠A = ∠C $\angle A + \angle B + \angle C = 180^0$ $2\angle A + 80^0 = 180^0$ $\angle A = 50^0$

15.	**(c)**	If two parallel lines are intersected by a transversal, then the sum of the interior angles on the same side of the transversal is 180^0.
16.	**(b)**	$2x + 5(0) = 6 \Rightarrow x = 3$ $\therefore$ required point is (3, 0).
17.	**(b)**	AB↔FD and ∠C↔∠E
18.	**(c)**	$\frac{130+150}{2} = 140$
19.	**(b)**	LHS = 4 – 2 (0) = 4 = RHS $\therefore$ (4, 0) is the solution of given equation.
20.	**(a)**	∠3 and ∠6 represent interior alternate angle.
21.	**(a)**	$30 + x = 180 - 40$ $\therefore x = 110$
22.	**(c)**	$\angle A = \angle B + 42^0$ $\angle C = \angle B - 21^0$ $\angle A + \angle B + \angle C = 180^0$ $\angle B + 42^0 + \angle B + \angle B - 21^0 = 180^0$ $\angle B = 53^0$
23.	**(d)**	$(3a^4 b^3) \times (18 a^3 b^5) = 54 a^7 b^8$
24.	**(b)**	10 – 3 = 7
25.	**(b)**	Let vertex angle and one of base angles be x and y respectively. A.T.Q. $x + y + y = 180^0$ & $x = 2(y+ y)$ $\therefore x = 120^0$
26.	**(c)**	$\sqrt[4]{\sqrt[3]{2^3}} = ((2^3)^{\frac{1}{3}})^{\frac{1}{4}} = 2^{\frac{1}{4}}$
27.	**(a)**	$x + 50^0 = 123^0$ $\therefore x = 73^0$
28.	**(a)**	If x and y are both positive solutions of equation ax + by + c = 0, always lie in first quadrant.
29.	**(d)**	$(\sqrt{2} - 1) + (\sqrt{3} - \sqrt{2}) + (\sqrt{4} - \sqrt{3}) + \ldots\ldots + (\sqrt{9} - \sqrt{8}) = \sqrt{9} - 1 = 2$
30.	**(b)**	$\Delta ABC \cong \Delta A'B'C'$ $\angle BAC = \angle B'A'C'$ $3x = 2x + 20^0$ $x = 20^0$ $\therefore \angle B'A'C' = 2 \times 20^0 + 20^0 = 60^0$
31.	**(d)**	$120^0 + x + x + 10^0 = 360^0$ (Complete angle) $x = 115^0$
32.	**(a)**	The number in the interval 20-30 is 4 (25, 20, 22 and 20).
33.	**(a)**	After rationalizing $2 - \sqrt{3} = a - b\sqrt{3}$ $\therefore a = 2$ and $b = 1$ So, $a + b = 2 + 1 = 3$
34.	**(b)**	x + y = 0 has solutions (–3, 3), (0, 0) and (3, –3).
35.	**(d)**	Upper limit = 15 + (15 – 13) = 17
36.	**(a)**	It is example of Primary data & Secondary data respectively.
37.	**(d)**	The graph of x = y is a straight line passing through the origin.
38.	**(c)**	8y – 6x = 4 has solutions (2, 2) and (-2, -1).

39.	**(b)**	$\frac{1}{x} = \sqrt{5} - 2$ $\therefore x - \frac{1}{x} = (\sqrt{5} + 2) - (\sqrt{5} - 2) = 4$
40.	**(c)**	$a + b + 90^0 = 180^0$ (Straight angle) $\therefore a + b = 90^0$
41.	**(a)**	(1, 2) is the coordinates of A.
42.	**(c)**	(5, 0) is the coordinates of D.
43.	**(b)**	(8, 3) is the coordinates of F.
44.	**(b)**	½ X 2 X 2 = 2 square units
45.	**(c)**	3 X 3 = 9 square units
46.	**(b)**	$\frac{50+80+120}{2}$ = 125 m
47.	**(a)**	50 + 80 + 120 = 250 m
48.	**(d)**	250 – 3 = 247 m
49.	**(c)**	247 X 20 = ₹ 4940
50.	**(b)**	A = $\sqrt{125\ (125-50)(125-80)(125-120)}$ = $375\sqrt{15}$ m^2