Class: 8th
Term 2nd 2023
MATH

Series-A

Max. Marks: 40

Time: 2 ½ Hours

Section (A) 8Q × 1M = 8 Marks

Q.No.1. Do as directed:

(I) One of the following is monomial, identify:

(a) $-(2y - 3z)$

(b) $-\frac{12}{19}x^2yz$

(c) $\frac{x^2}{3} + y$

(d) $(2z - y)^3$

(II) The coefficient of y^3 in $y + 2y^2 - a^2y^3$ is:

(a) 2

(b) a^2

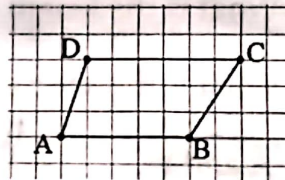(c) $-a^2$

(d) -1

(III) Area of closed figure given in the unit square grid is approximate to:

(a)   20 square units

(b)   16 Square units

(c)   77 square units

(d)   13 square units

(IV) Prime factorization of 28 is:

(a) 2×14

(b) $2 \times 2 \times 7$

(b) $1 \times 2 \times 2 \times 7$

(d) 28×1

(V) Common factor of $2y$ and $-22xy$, is:

(a) $-2xy$

(b) $2xy$

(c) $-2x$

(d) $2y$

(VI) The point $A(2,0)$ is ...... units distant from XX′:

(a)   2 units

(b) 0 unit

(b)   1 unit

(d) 20 units

(VII) Identify the number which is divisible by 4:

(a) 234

(b) 428 ✓

(c) 1022

(d) 4442

(VIII) An even number divides only even numbers.

(True/False)

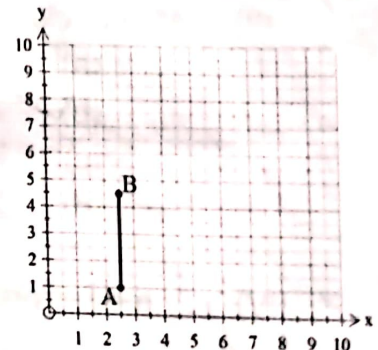### Section (B) 5Q × 2M = 10 Marks

Q.No.2. Express 9^{-2} with the base 3 and positive exponent.

Q.No.3. Identify the given statements for their type of proportionality:

a) Number of tractors used and the time required to plough a piece of land.

b) Number of spokes and the angle between the spokes of a wheel.

Q.No.4. In the given coordinate system, a line segment AB is traced. Observe it carefully and answer:

a) What is the length of the line segment AB

b) What is the shortest distance between point A and YX'

[handwritten] Q no 4 . Inverce proportion
[handwritten] Biuced proportion

Q.No.5. In the given Problem, find the value of A and B

$$\begin{array}{r} A\ 3 \\ +\ 2\ 5 \\ \hline 9\ 9\ B \end{array}$$

Q.No.6. Factorize: $4p^2 - 9q^2$

[handwritten] Sol $(2P = 3q)$ $2P + 3q$

[handwritten] Q no 5 4.5 cm
[handwritten] b) 55 six^3

Attempt any 4 questions from this section.

Section (C) 4Q × 3M = 12 Marks

Q.No.7. The diagonals of a rhombus are 7.5 cm and 12 cm. Find its area.

Q.No.8. Using proper identity, find the value of: 10.5×9.5

Q.No.9. Find the value of $3x + 5 + 6y$ when $x + 2y = -4$

Q.No.10. $a^4 - b^4$ is factorized under. Observe it carefully to find the error and resolve it correctly.

$$a^4 - b^4 = [a^2]^2 - [b^2]^2$$
$$= (a^2 - b^2)(a^2 - b^2)$$
$$= (a + b)(a - b)(a + b)(a - b).$$

Q.No.11. Use graph paper and draw a line passing through the points (2,3) and (3,2). Also find the coordinates of the point where the line meets XX'

Q.No.12. If 35A6 is a 4-digit number divisible by 3. Find all possible values of the letter A

Section (D) Long Answer Type 2Q × 5M = 10 Marks

Q.No.13. A milk tank is in the form of a cylinder of radius 1.5m and length 7m. Find its capacity in liters.

Or

A cuboidal reservoir of length 120cm and breadth 90cm is built to store water. What should be the depth of the reservoir so that it contains exactly 1080 liters of water.

Q.No.14. Draw a pie-chart to represent the given population-information of a locality:

Category	Number
0 – 10 Years	250
19 – 40 Years	1000
41 – 60 Years	500
Above 60 Years	250

Or

In the given graph, points A, B, C, D, E, F, G, H, I, are traced. Observe carefully and answer:

a)   Which type of quadrilateral is formed by joining the points CFGE.

b)   Which point has (7.5, 0) coordinates?

c)   Write the coordinates of the point F

d)   Which type of angle is interior ∠GEB?

e)   Which type of quadrilateral is formed by joining the points B,D,G,E?

[4]