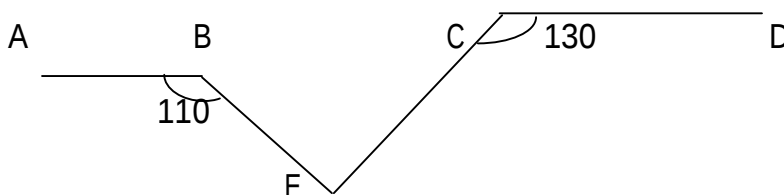


Section - A (Each question carries 01 marks)

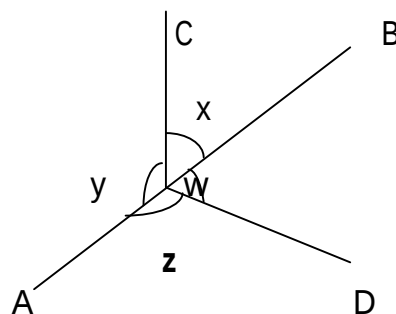
1. Product of $\sqrt[3]{8}$ and $\sqrt[4]{16}$ is.....
2. Write equation of line parallel to y-axis and the distance of +4 units from Y axis.
3. If $a = b$ and $c = d$, then $a + c = b + d$. write appropriate Euclid's axiom.
4. If a ray stands on a line then the sum of two adjacent angles so formed is
5. The degree of polynomial $x^6 + x^4 + y^5$ is

Section - B (Each question carries 02 marks)

1. Find 5 rational numbers between $\frac{3}{5}$ and $\frac{5}{8}$.
2. Rationalize the denominator of $\frac{1}{\sqrt{5} + \sqrt{3}}$
3. Factorize $64a^3 - 125b^3$
4. Find the value of a if $(x-a)$ is a factor of $x^3 - ax^2 + a + 2$.
5. The perpendicular distance of a point from the x-axis is 2 units and the perpendicular distance from y-axis is 3 units. Write the coordinate of the point if it lies in (a). First Quadrant (b) Second Quadrant
6. A point A (-3, a) and B (b, 4) lies on a straight line with equation $y = 4x$. Find the value of a and b.
7. 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.
8. If $AB \parallel CD$, $\angle ABE = 110^\circ$ and $\angle ECD = 130^\circ$ Find $\angle BEC$.



9. If $x + y = w + z$, then prove that AOB is a line



10. Two sides of a triangle are 8 cm and 11cm and the perimeter is 32 cm. Find the area of triangle.

Section - C (Each question carries 03 marks)

1. Find the value of $12^3 + 15^3 - 27^3$ by using suitable identity.
2. Write in which quadrant or axis does the following point lie
 - a. (4,-2)
 - b. (-4,3)
 - c. (3,0)
 - d. (0,-7)
 - e. (-1,-2)
 - f. (4,6)
3. Represent $\sqrt{6.3}$ on the number line.
4. A, B, C and D are points on a line such that $AB = CD$ prove that $AC = BD$.

$\overline{\text{A} \quad \text{B} \quad \text{C} \quad \text{D}}$
5. Express $4x-7y=5$ in the form $ax+by+c=0$ and also find the values of a, b and c.
6. If the area of equilateral triangle is $100\sqrt{3} \text{ cm}^2$ find its sides and perimeter.
7. If two lines intersect each other then prove that vertically opposite angles are equal.
8. Expand $(2x-3y+z)^2$
9. Express the following in the form of p/q where p and q are integers and $q \neq 0$
 - a). $4.\overline{32}$
 - b). $1.1\overline{13}$

Section - D (Each question carries 04 marks)

- (1). If $a=7-4\sqrt{3}$, Find (i) $a + \frac{1}{a}$ (ii) $a^2 + \frac{1}{a^2}$
- (2). If $x+y+z=0$, prove that $x^3+y^3+z^3-3xyz=0$

OR

Factorize $x^2 + \frac{1}{x^2} + 2 - 2x - \frac{2}{x}$

- (3). Factorize $x^3 + 3x^2 + 3x - 7$ by using factor theorem.

OR

If polynomial ax^3+4x^2+3x-4 and x^3-4x+a leaves the same remainder when divided by $(x-3)$ find the value of a.

- (4). Plot the point A(0,3), B(5,3), C(4,0) and D(-1,0) on the graph paper. Identify the figure ABCD and Find whether point P (2, 2) lies inside the figure or not.
- (5). Draw the graph of $x+y=8$ and $x-y=0$. Shade the area between these lines and x-axis.
- (6). A field is in the shape of the trapezium where parallel sides are 10 m and 25 m and non-parallel sides are 14 m and 13 m. Find the area of the field.

OR

A rhombus shaped field has green grass for 18 cows to graze. If each side of the rhombus is 30 m and its longer diagonal is 48 m how much Area of the grass field will each cow be getting?

- (7). The side QR of the triangle PQR is produced to a point S, if the bisector of angle PQR and angle PRS meet at a point T, then prove that, $\angle QTR = \frac{1}{2} \angle QPR$.

OR

ABCD is a quadrilateral prove that $a+b = x+y$.

