

DELHI PUBLIC SCHOOL, JAMMU
Assignment class IX (2018-19)

Number System

1. Find Value of $(7^{\frac{1}{4}})^3$
- 2 Find 10 rational numbers between 0 and $\frac{-1}{3}$.
- 3.If $a = 6 + 2\sqrt{3}$, find value of $a - \frac{1}{a}$.
- 4.Rationalise the denominator of $\frac{1}{\sqrt{3}-\sqrt{2}-\sqrt{5}}$
5. Represent $\sqrt{3}$ and $\sqrt{9.3}$ on number line.

Polynomials

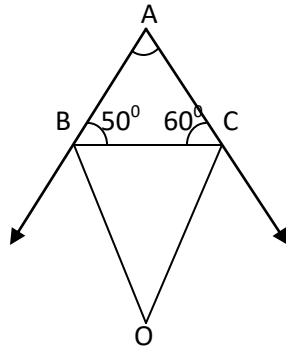
- 6.Find zeroes of the polynomial $P(x) = 4x^2 - 25$.
- 7.for what value of m is $x^3 - 2mx^2 + 16$ divisible by $x+2$
8. Factorise $2y^3 + y^2 - 2y - 1$
- 9.Find a and b if $x+1$ and $x-1$ are factors of $x^3 + ax^2 + 2x + -3x + b$
- 10.If a,b,c are all non zeroes and $a+b+c=0$. prove that $\frac{a^2}{bc} + \frac{b^2}{ac} + \frac{c^2}{ab} = 3$

Coordinate Geometry

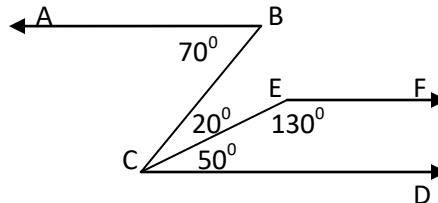
11. If the point (3,4) lies on the graph of the equation $3y = ax + 7$, find the value of a.
- 12.Plot the points (3,4), (-3,4), (-3,-4) and (3,-4) join them to form a figure name and find area.
- 13.plot a point P(3,6) on graph, draw perpendicular PM on X-axis, PN on Y-axis. Name the coordinates of M and N.
- 14.Plot a point (2,3), (-3,0) and (4,0) on the graph. Join to form figure. Name the figure and find area.
- 15.Draw the figure with vertices (-4,4), (-6,0), (-4,-4), (-2,0). Name the fig. and find area.

Lines and Angles

16. Prove that sum of angles of triangle is 180° .
17. In fig , BO and CO are the bisectors of exterior angles B and C of ΔABC . Find $\angle BOC$



18. In Fig, prove that $AB \parallel CD$ and $CD \parallel EF$.



19. AB and CD are intersected by transversal EF at G and H respectively. If GM is bisector of $\angle BGH$ and HN is bisector of $\angle GHC$. If $GM \parallel HN$ prove that $AB \parallel CD$.
20. In ΔPQR , $PT \perp QR$ and PS is bisector of $\angle P$. If $\angle Q = 60^\circ$ and $\angle R = 30^\circ$, Find $\angle TPS$.