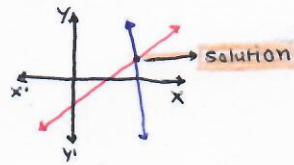


LINEAR EQUATIONS

GENERAL EQUATION: $ax + by + c = 0$



Find atleast three ordered pairs

Plot them and draw line

Solution is the intersection of lines

CRAMER'S RULE

$$\begin{aligned} a_1x + b_1y + c_1 &= 0 \\ a_2x + b_2y + c_2 &= 0 \end{aligned}$$

$$D = \begin{vmatrix} a_1 & b_1 \\ a_2 & b_2 \end{vmatrix} \quad D_x = \begin{vmatrix} c_1 & b_1 \\ c_2 & b_2 \end{vmatrix} \quad D_y = \begin{vmatrix} a_1 & c_1 \\ a_2 & c_2 \end{vmatrix}$$

$$x = \frac{D_x}{D}$$

$$y = \frac{D_y}{D}$$

ARITHMETIC PROGRESSION

Sequence having diffn betn consecutive terms constant.

A.P $\rightarrow a, a+d, a+2d, \dots$

$$t_n = a + (n-1)d \quad \left| \quad S_n = \frac{n}{2} [2a + (n-1)d]$$

$$d = t_{n+1} - t_n \quad \left| \quad S_n = \frac{n}{2} [a + t_n]$$

PROBABILITY

from 0 to 1.

$$P(A) = \frac{\text{no. of sample points in } A}{\text{no. of sample points in } S} = \frac{n(A)}{n(S)}$$

sample space.

Pack of Cards $\rightarrow 52$



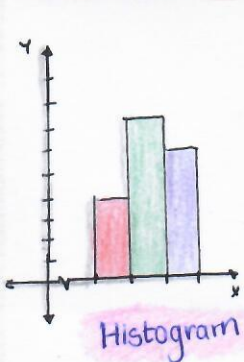
Two dice: $n(S) = 36$

Two coins: $n(S) = 4$

Three coins: $n(S) = 8$

One dice: $n(S) = 6$

One coin: $n(S) = 2$



Histogram



Frequency Polygon



Pie Diagram

$$\theta = \frac{\text{No. of scores in component}}{\text{Total no. of scores}} \times 360$$

QUADRATIC EQUATIONS

GENERAL EQUATION: $ax^2 + bx + c = 0, a \neq 0$

$$\text{Roots of equation} = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a} \rightarrow \text{Discriminant } (\Delta)$$

NATURE OF ROOTS

$b^2 - 4ac = 0 \Rightarrow$ Real and equal.

$b^2 - 4ac > 0 \Rightarrow$ Real and unequal.

$b^2 - 4ac < 0 \Rightarrow$ Not Real

$$\alpha + \beta = \frac{-b}{a} \quad \left| \quad \alpha\beta = \frac{c}{a}$$



SID Study Material

$$\alpha^2 + \beta^2 = (\alpha + \beta)^2 - 2\alpha\beta$$

$$\alpha^3 + \beta^3 = (\alpha + \beta)^3 - 3\alpha\beta(\alpha + \beta)$$

FORMAT^N OF QUADRATIC EQN

$$x^2 + (\alpha + \beta)x + \alpha\beta = 0$$

MATHS-1
X FORMULA SHEET

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FINANCIAL PLANNING

GST: Goods and Service Tax.

GSTIN: GST Identification Number.

HSN: Harmonized System of Nomenclature.

CGST: Central GST

SGST: State GST

UTGST: Union Territory GST.

ITC: Input Tax Credit.

27 ABCDE1234H1Z5
15 alphanumeric.

GST = CGST + SGST

CGST = SGST

Manufacturer

Wholesaler

Retailer

Consumer

GST Payable = Output tax - ITC

MV > FV $\Rightarrow$ Share at premium.

MV = FV $\Rightarrow$ Share at par

MV < FV $\Rightarrow$ Share at discount.

Sum invested = no. of shares $\times$ MV

$$\text{RoR} = \frac{\text{Dividend income}}{\text{Sum invested}} \times 100$$

Buying Shares: + Brokerage

Selling Shares: - Brokerage

Total fund

= NAV $\times$ no. of units.

STATISTICS

Direct Mean Method

$$\bar{X} = \frac{\sum x_i f_i}{N}$$

Assumed Mean Method.

$$\bar{X} = A + \frac{\sum f_i d_i}{\sum f_i}$$

Step Deviation Method.

$$\bar{X} = A + \bar{u}g$$

$$\bar{u} = \frac{\sum f_i u_i}{\sum f_i}$$

Median

$$= L + \left[\frac{N/2 - cf}{f} \right] \times h$$

Mode

$$= L + \left[\frac{f_i - f_0}{2f_i - f_0 - f_2} \right] \times h$$

NOW YOU'RE ONE STEP CLOSER

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