MBA

DILR

Basics of Data Interpretation

L2

By Amit Surana Sir

patience

Video quality

AMIT SURANA

- 10+ Years of Experience
- Aeronautical Engineer
- Nurtured many 99+ %ile achievers
- Mentored for CAT, GMAT, GRE & OMETs

DILR Expert

QUICK Recap

- Basics of LR ✓

Qns.

Hypothetical
Indefinite
Definite
Extensions

options

i) D R C
ii) D L C
iii) I D C

TOPICS to be covered

→ Raw data ↙ word problem (caselet)

1. Basics of DI

→ chart
- Table
- line
- bar
- pie chart
- ⋮

"Math"

↑ comfortable

↓ uncomfortable

DATA INTERPRETATION

1. Tables
2. Pie Charts
3. Bar Graphs
4. Line Graphs
5. Miscellaneous Charts
6. Multiple Charts
7. Word Problems

Essentials for ~~LR~~ DI

1. Basic Operations ✓
2. Percentages ✓
3. Ratios & Proportions ✓
4. Averages ✓
5. Equations ✓

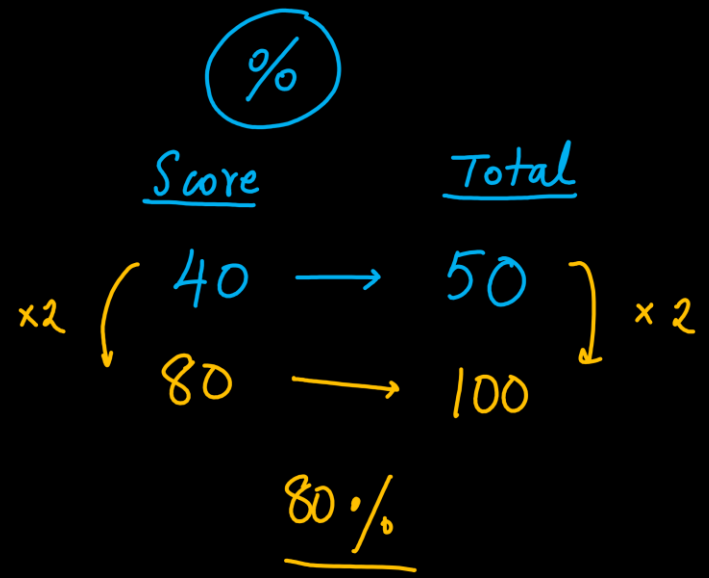
Basic Operations

1. Addition
2. Subtraction
3. Multiplication
4. Division
5. Exponents (powers)
6. Roots

Percentages

for every → 100

1. Percentage Calculation
2. Percentage Change
   - Percentage Increase/Decrease
   - Percentage Greater/Lesser



1. Calculation of Ratios
2. Finding unknown using Proportions

$$a : b = \frac{a}{b}$$

milk water

$4x : 5x$

20 l 25 l

$4x = 20$

$x = \frac{20}{4} = 5$

Averages

1. Standard Average
2. Mean, Median, Mode
3. Weighted Average

1	2	3
100	120	140

$$\text{mean} = \text{Avg} = \frac{\text{Sum}}{n}$$

$$= \frac{360}{3} = 120$$

n → odd

4, 3, 5, 7, 1

1, 3, 4, 5, 7

median = ~~5~~ 4

mid value after arranging (asc. / desc.)

n → even

1, 3, 4, 5, 7, 8

$\frac{4+5}{2} = 4.5$ median

4, 7, 9 – 1 time

1 – 2 times

2 – 3 times

3 – 2 times

Mode : 2

1, 2, 3, 2, 4, 1, 7, 2, 3, 9

Most repeated term

Equations

1. Solving Linear Equations
   - Elimination Method
   - Substitution Method

2. Solving Quadratic Equations
   - Factorization Method
   - Formula Method

Solve the following

No calc. in omETs

1. 33 + 82 + 54 + 69 + 24 + 71 =
2. 10000 – 2851 – 1452 =
3. 44 x 25 x 12 =
4. 870870/(7 x 11 x 13) =
5. 905^2 =
6. $\sqrt{21609}$ =

only CAT

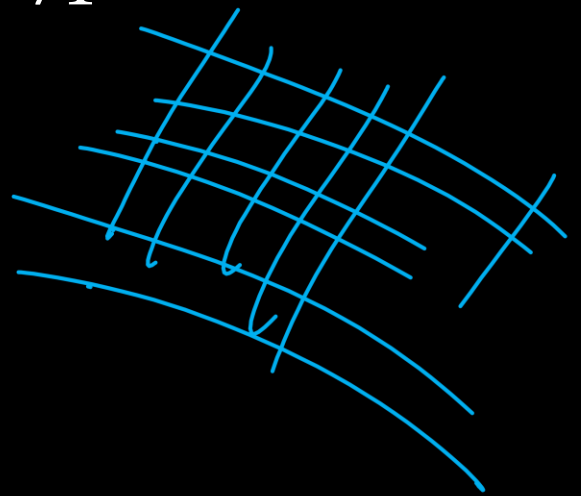
on-screen calculator

basic ✓ sci ✗

mouse ✓ keyboard ✗

71 × 42

15 × 4



Very simple → mental / manual

complex / time consuming / lengthy

1. Brackets

2. Of (power)

3. Division
   Multiplication

4. Addition
   Subtvaction

Solve the following

$$36 \div 4\,(2 + 7)$$

A. 1 TRAP!

B. 81 ✓

C. 32.5

~~D.~~ $\log_9 36$

$\frac{36}{4 \times 9}$

1 ✗

$36 \div 4 \times 9$

$\frac{36}{4} \times 9$

81

- Percentage Calculation
- Percentage Change
  - Percentage Increase/Decrease
  - Percentage Greater/Lesser

Fractions to Percentage

Fraction	% value	↳ Others
$1/2$	50%	
$1/3$	33.33%	$2/3$ → 66.66%
$1/4$	25%	$2/4$ 50%, 75% $3/4$
$1/5$	20%	$2/5$ 40%, $3/5$ 60%, $4/5$ 80%
$1/6$	16.66%	33.33%, 50%, 66.66%, 83.33%
$1/7$	14.28%	28.57%, 42.85%, 57.14%, 71.42%, 85.71%
$1/8$	12.5%	25%, 37.5%, 50%, 62.5%, 75%, 87.5%
$1/9$	11.11%	22.22%, 33.33%, 44.44%, 55.55%, ...
$1/11$	9.09%	18.18%, 27.27%. 36.36%, 45.45%, 54.54%, 63.63%, 72.72%, 81.81%, 90.90%

33.3% of 96

$\frac{1}{3} \times 96$ (32) ✓

$x + 10\%(x)$

$x + \frac{x}{10}$

$\frac{11x}{10} = 1.1(x)$

MF!

Solve the following

No calc.

cancel zeroes

1. 36% of 1500 = 540.

$\frac{36}{100} \times 1500$

splitting

2. 55% of 80 = 44

50 % + 5 %

40 + 4

swapping

3. 35% of 40 = 40 % of 35 = $\frac{2}{5} \times 35 = 14$

4. $83.\overline{3}\%$ of 42 = 35

$\frac{5}{6} \times y_{42}$

Solve the following

1. 300 is what percentage greater than 220?

2. 220 is lesser than 300 by what percentage?

Solve the following

1. 300 is what percentage greater than 220?

base ↓

$\frac{80}{220} \times 100$

$36.\overline{36}\ \%$

2. 220 is lesser than 300 by what percentage?

base ↓

$\% \text{ change} = \frac{\text{diff.}}{\text{base}} \times 100$

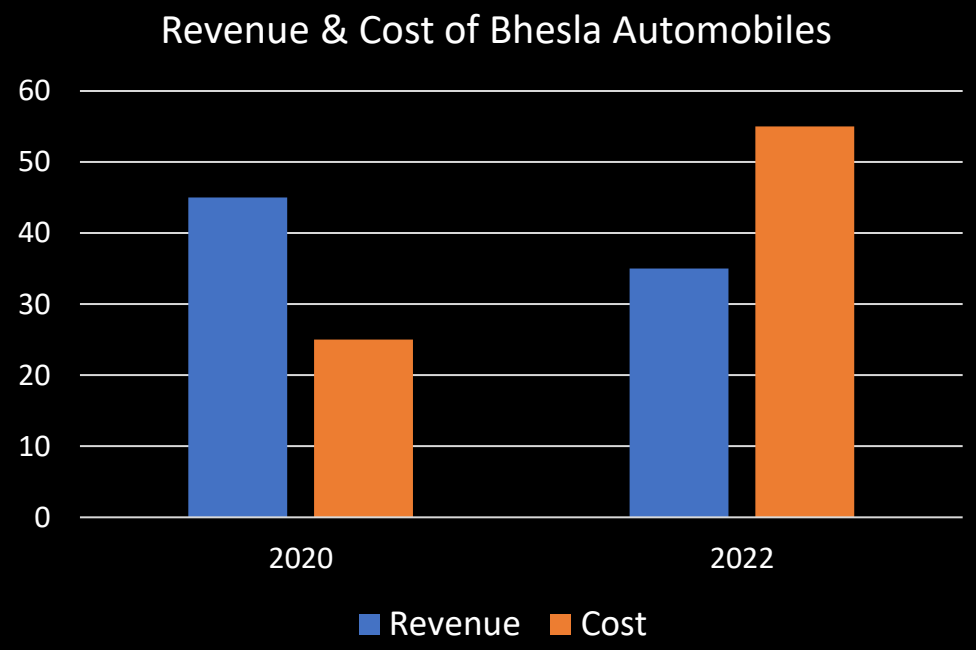
$\frac{80}{300} \times 100 = 26.\overline{66}\ \%$

Comparison	Base Value
Increase/Greater	Smaller Value
Decrease/Lesser	Larger Value

Solve the following

HW

1. By what percentage did the cost grow from 2020 to 2022?
2. What is the profit, in terms of percentage, in 2022?



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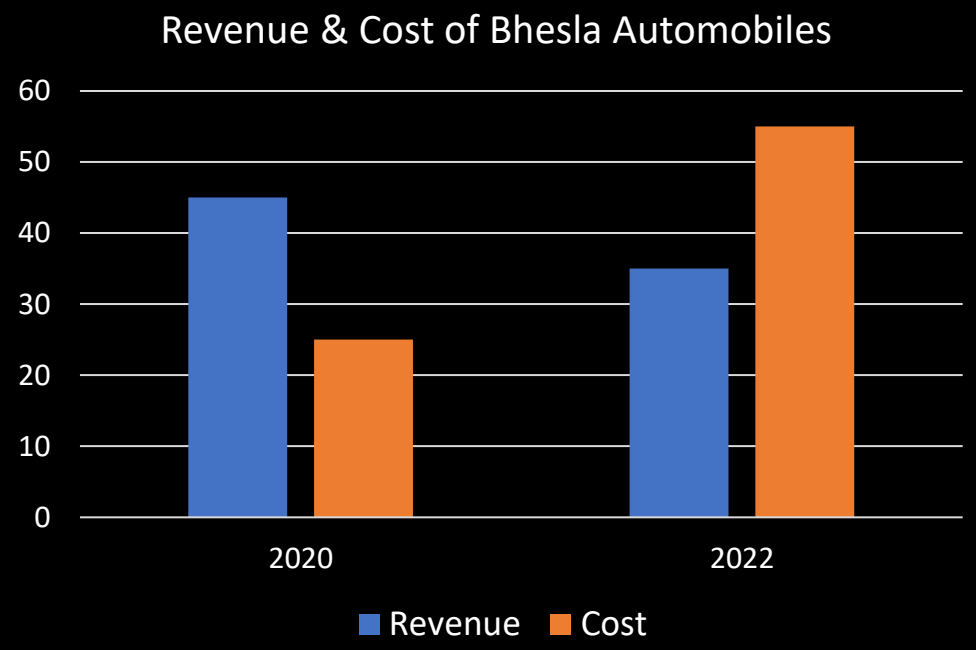


- Calculation of Ratios
- Finding unknown using Proportions

Solve the following

1. If x : y = 3 : 4 and x+y = 28, then find y.

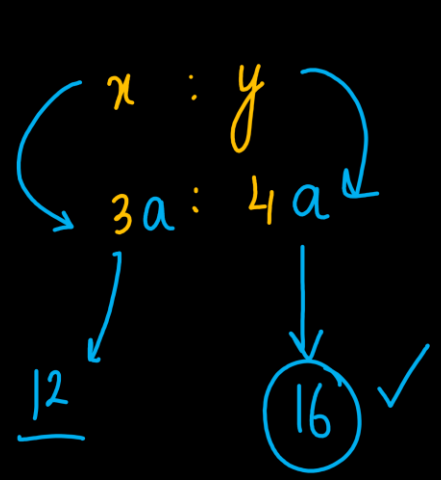
2. If a company earns ₹10 for every ₹19 spent, then what should be the revenue when ₹190 is spent?

3. In a class, for every 26 girls there are 19 boys. If there are 35 more girls than boys, then what is the number of boys in the class?

4. The height of a child is directly proportional to the square of the age. If a two year old child is 100 cm tall, then approximately how old is the child whose height is 120 cm?

Solve the following

1. If x : y = 3 : 4 and x+y = 28, then find y.

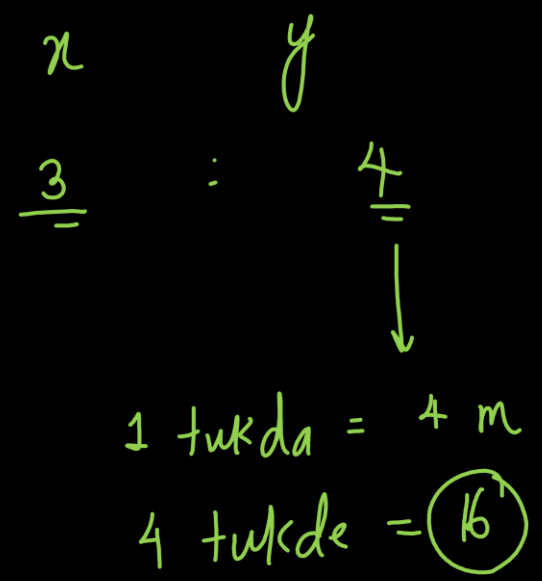


$x + y = 28$

$3a + 4a = 28$

$7a = 28$

$a = 4$



Solve the following

profit ratio cost

2. If a company earns ₹10 for every ₹19 spent, then what should be the revenue when ₹190 is spent?

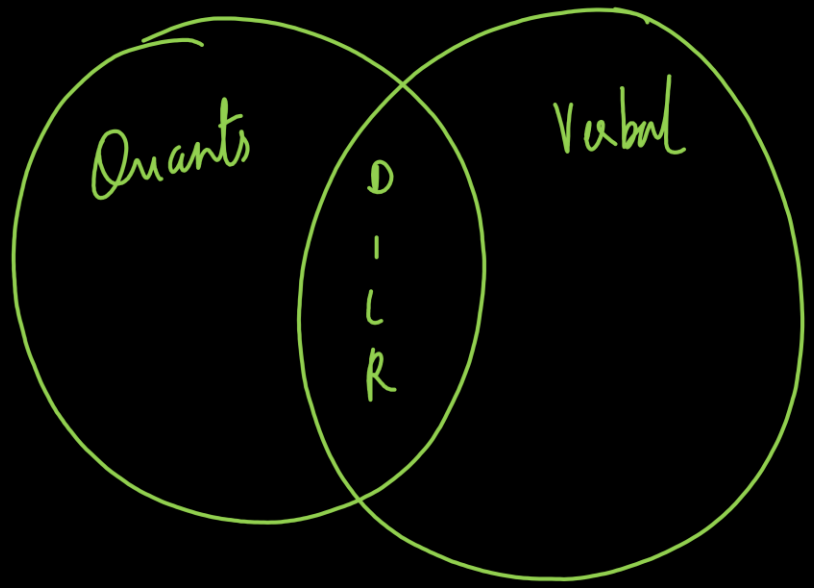
SP ← overall income

profit : cost

₹10 : ₹19

₹100 + ₹190

₹290



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Averages

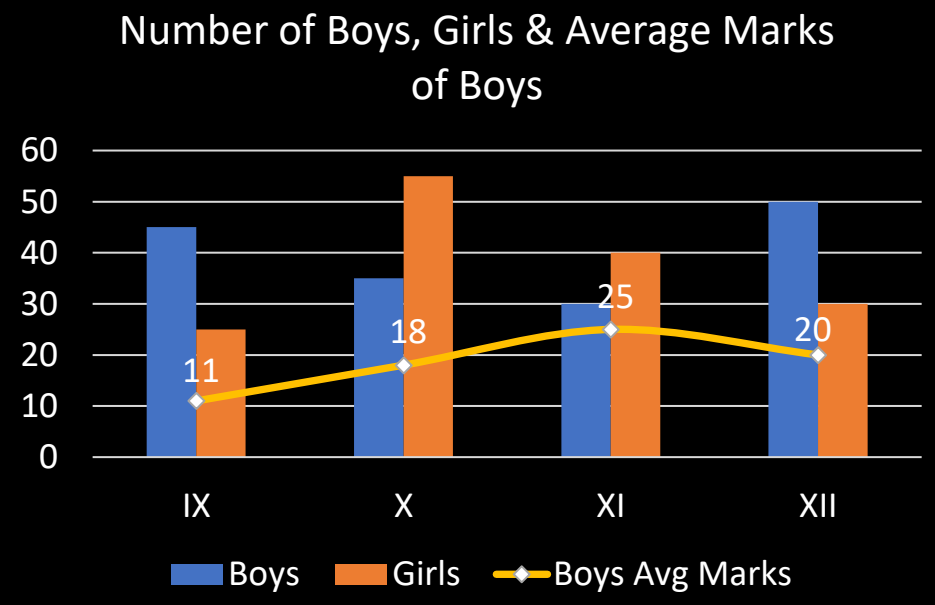
- Standard Average
- Mean, Median, Mode
- Weighted Average

Solve the following

1. What is the average number of boys in all the four classes?

2. What is the median of the number of boys & girls in all four classes?

3. If the average marks scored by girls in each class is 13, 20, 23 and 18 respectively, then which class has the highest overall average?



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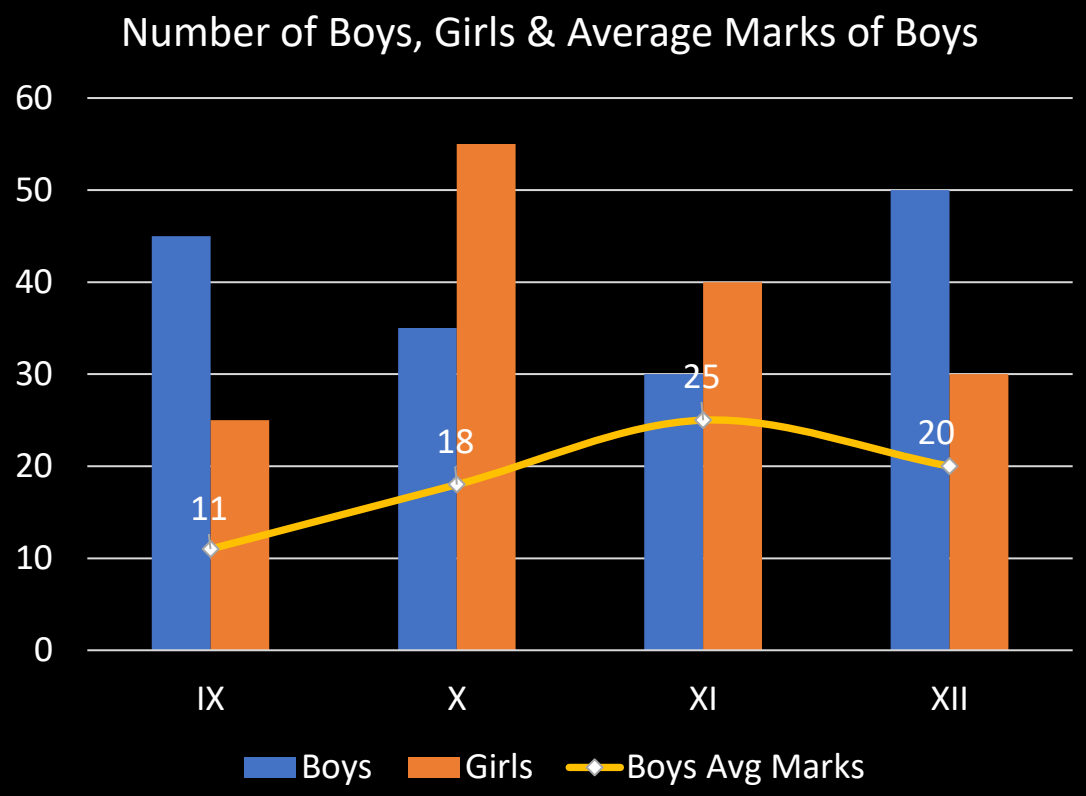

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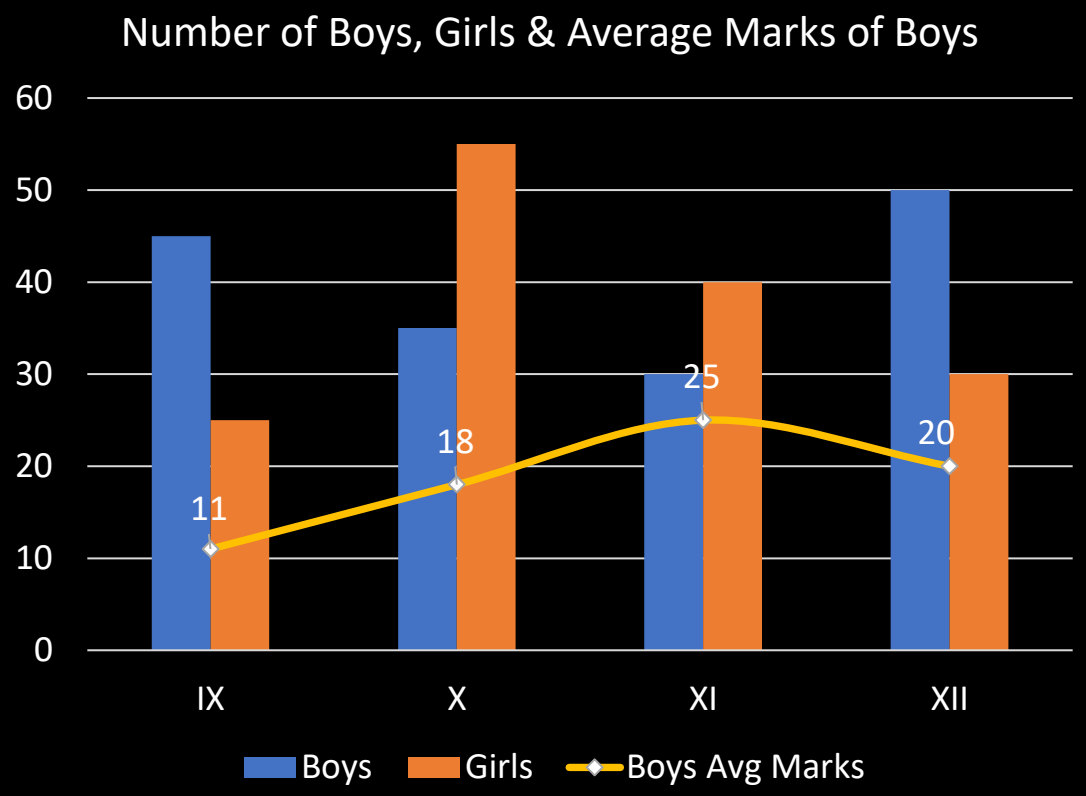

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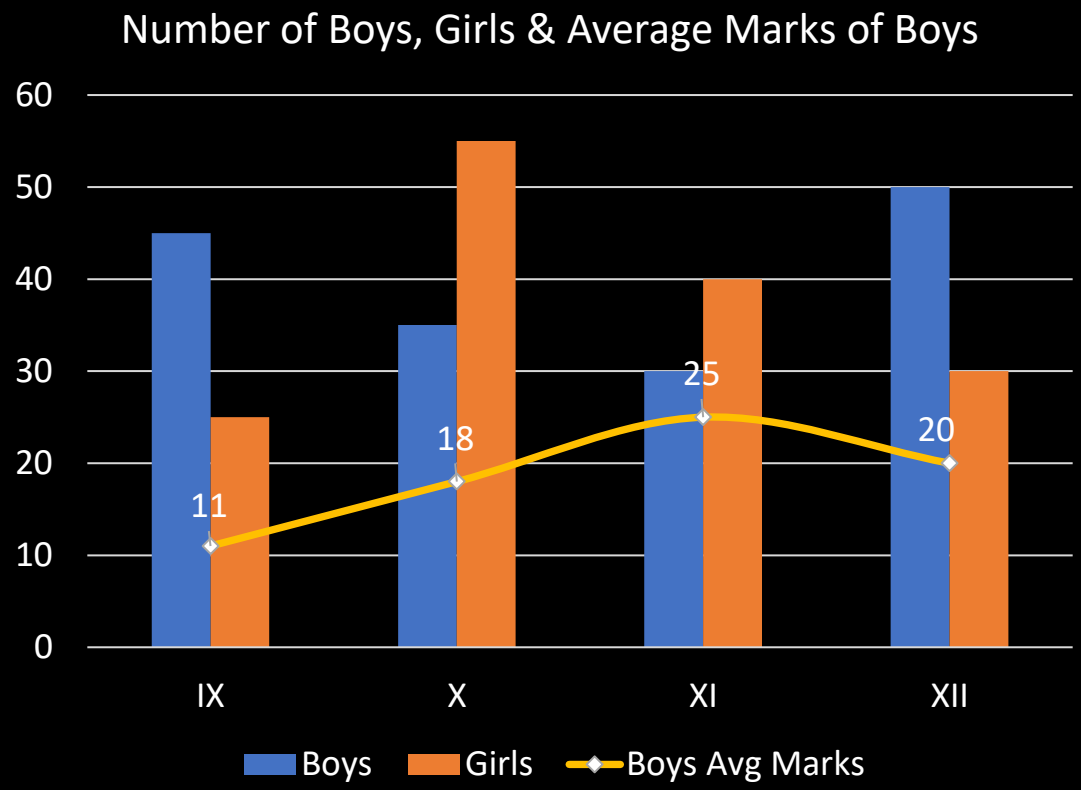


Solve the following

1. What is the median salary of the executives?

2. What is the difference between the mean and the mode of all the salaries?

Employee	Designation	Salary
Adam	Executive	₹75,000
Birju	Associate	₹33,000
Chloe	Associate	₹42,000
Danish	Executive	₹75,000
Elijah	Executive	₹68,000
Firoze	Executive	₹72,000
Giridhar	Associate	₹33,000
Hannah	Executive	₹75,000

Equations

1. Solving Linear Equations
   - Elimination Method
   - Substitution Method

2. Solving Quadratic Equations
   - Factorization Method
   - Formula Method

Topics in DI

1. Tables
2. Pie Charts
3. Bar Graphs
4. Line Graphs
5. Miscellaneous Charts
6. Multiple Charts
7. Word Problems

Tables

rows

columns

Total Expenses (in ₹ thousands) in Different Departments

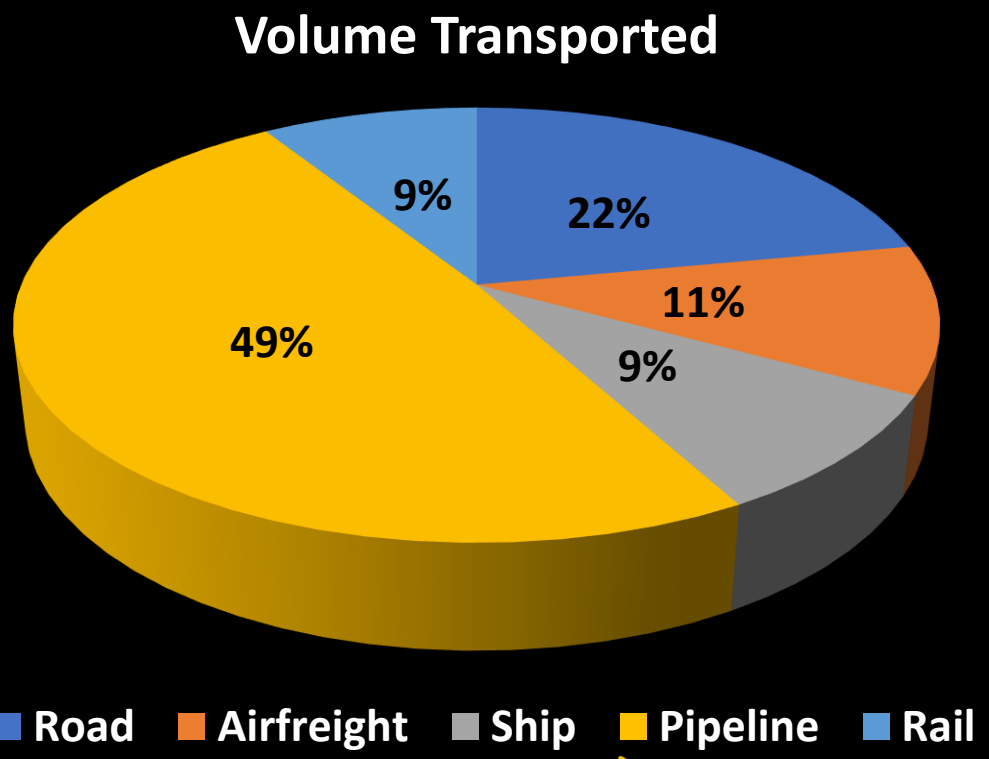
Expenses	P1	P2	P3	Total
Digital	500		700	1600
Advertising	1100	1600		
Phone		700	1600	2800
Marketing	2100			8900
Endorsements		300		
Branding	2700		4600	
R & D		500		
Product	3100			

Before tables class

Foundation Batch: Tables

Pie Charts

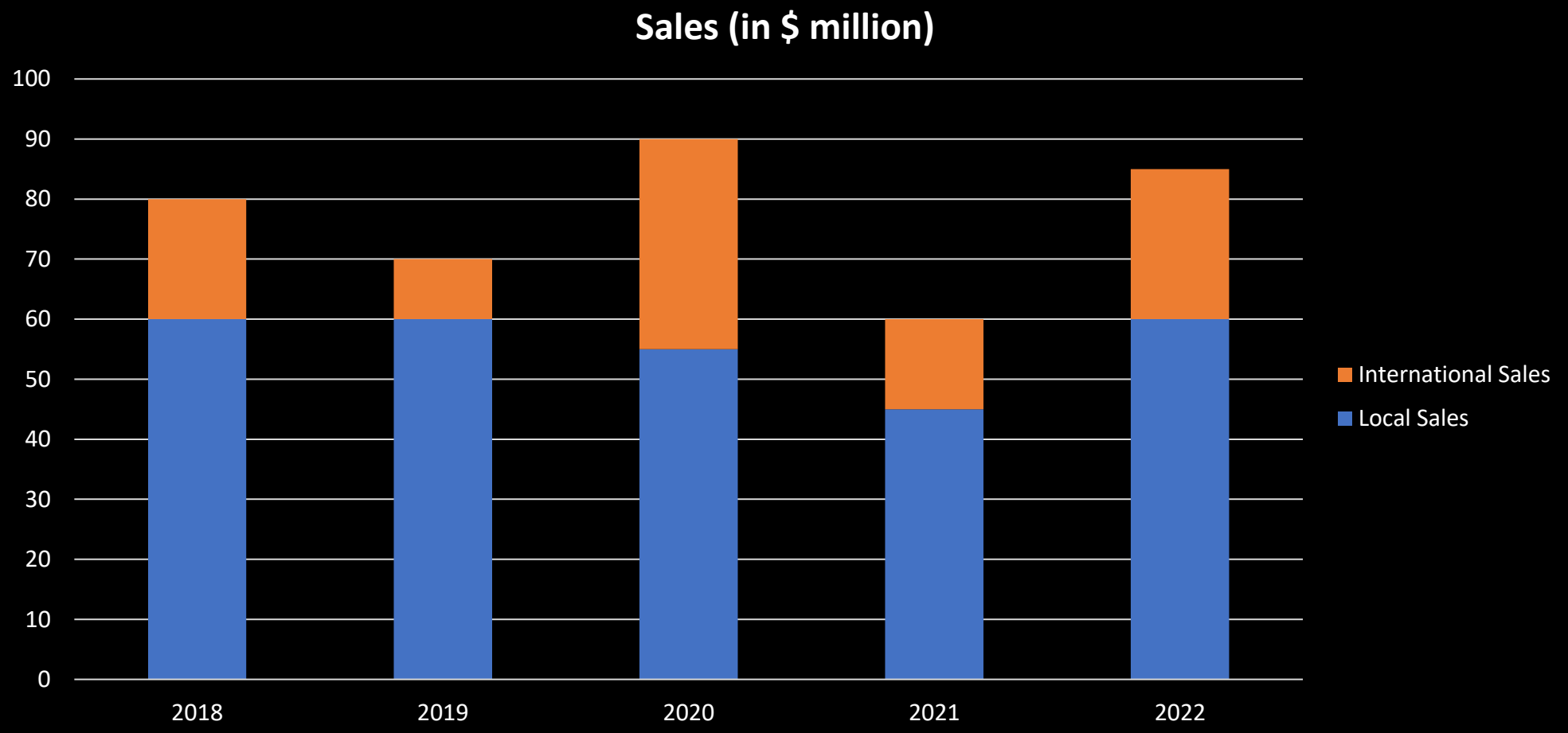
distribution



Foundation Batch: Pie Charts

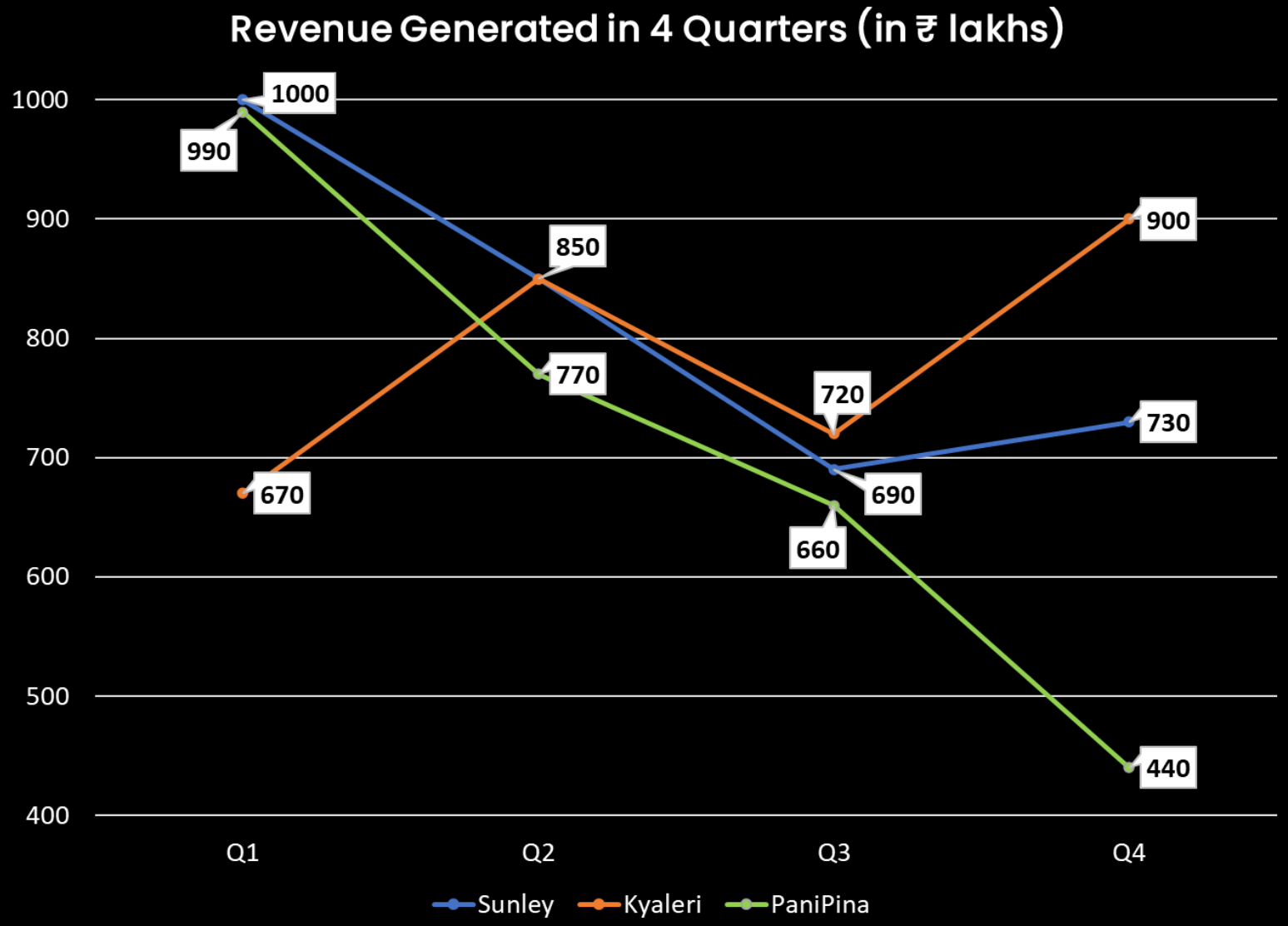
Bar Graphs

differentiate



Foundation Batch: Bar Graphs

Line Graphs

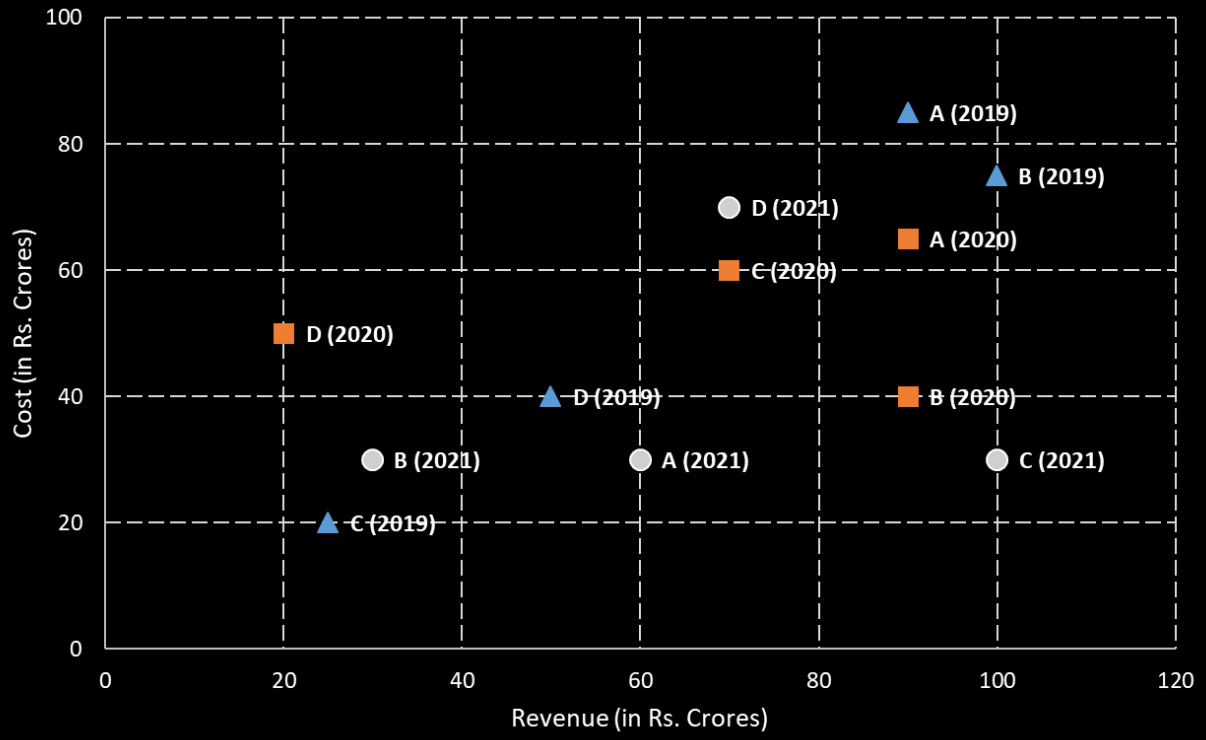


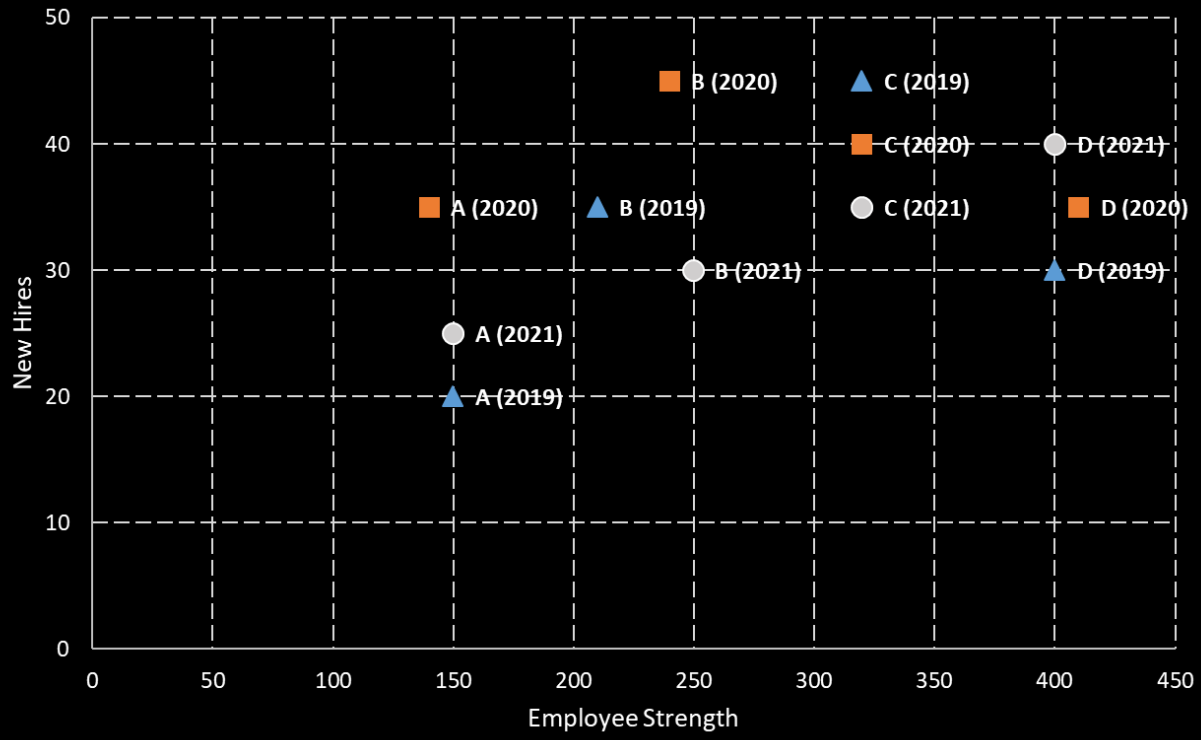
trend analysis

Foundation Batch: Line Graphs

Miscellaneous Charts

scatter plot

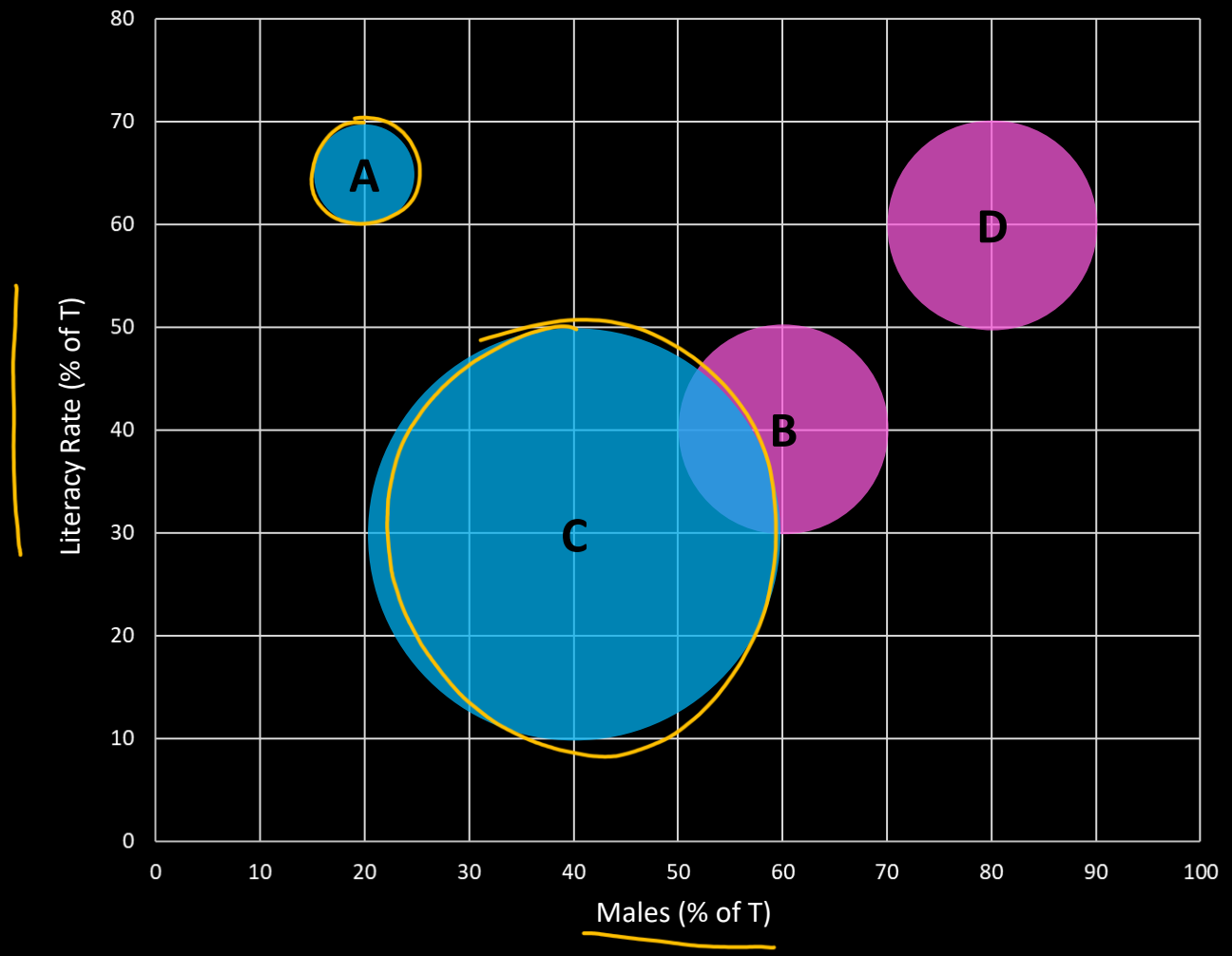




Foundation Batch: Miscellaneous Charts

Miscellaneous Charts

bubble chart

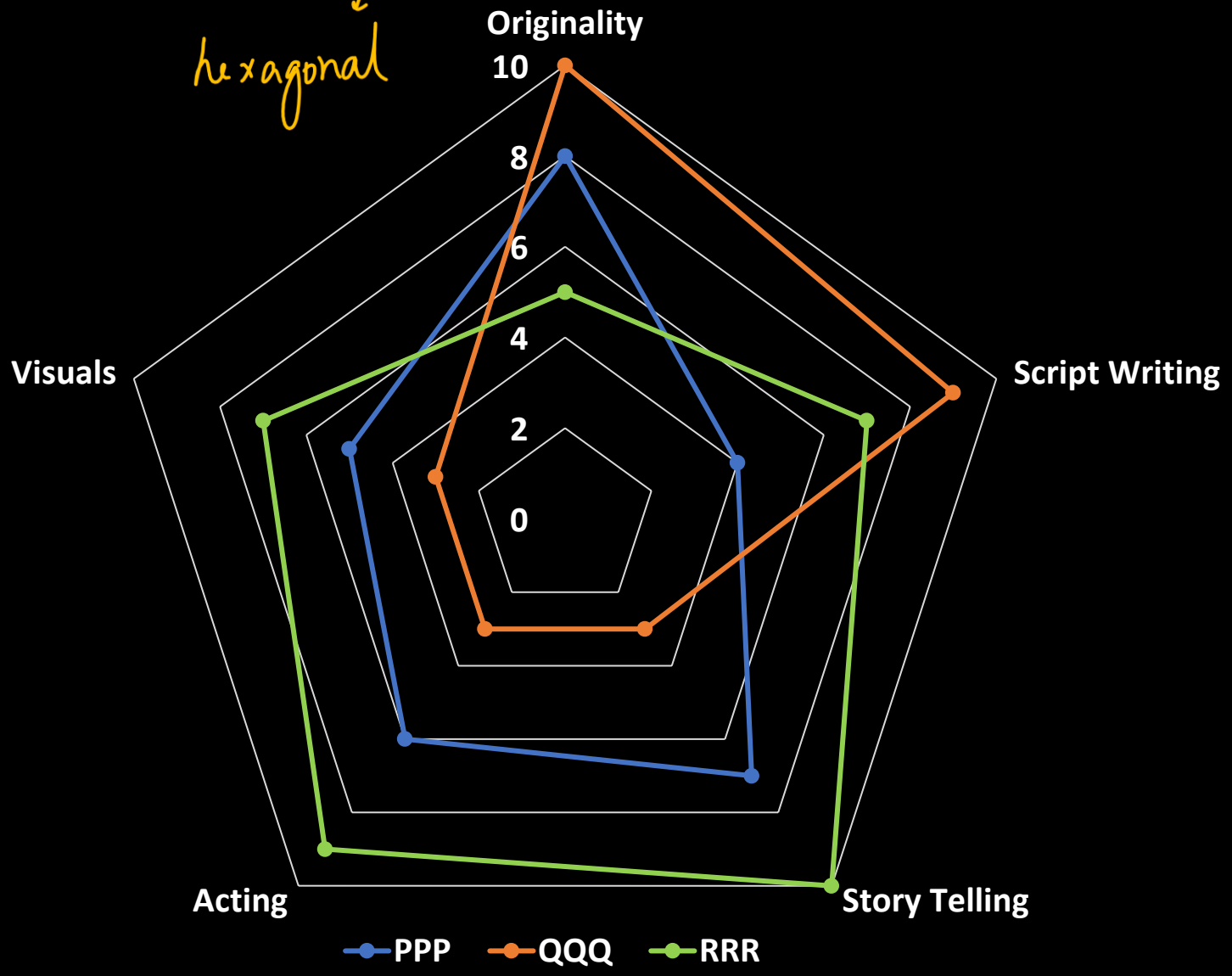


Miscellaneous Charts

Spider-web / radar chart

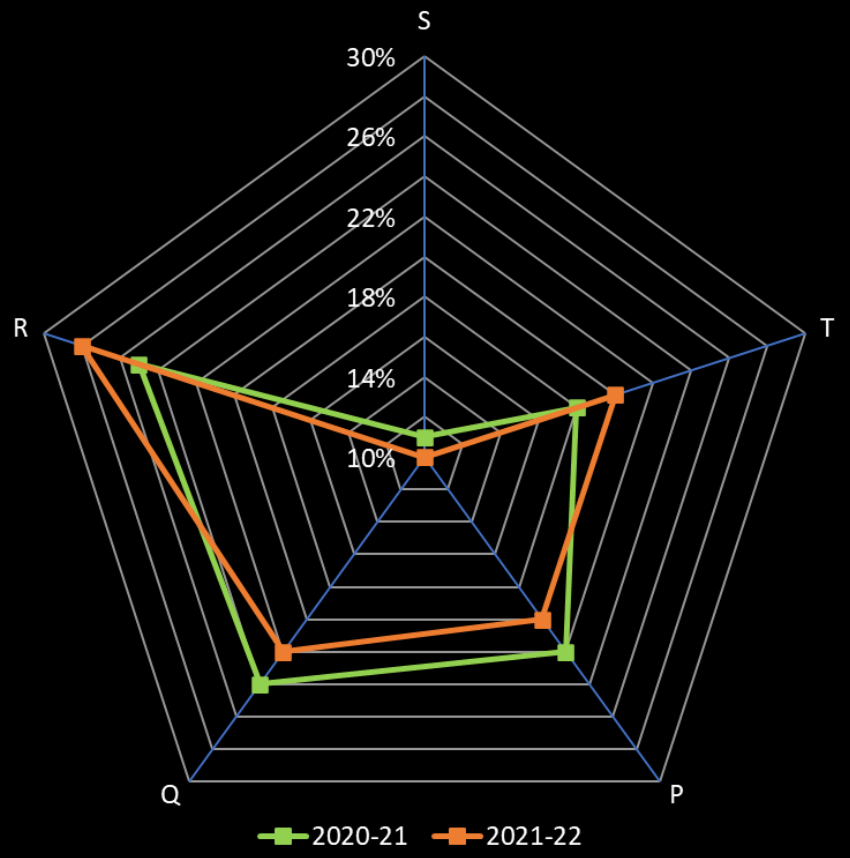
↓

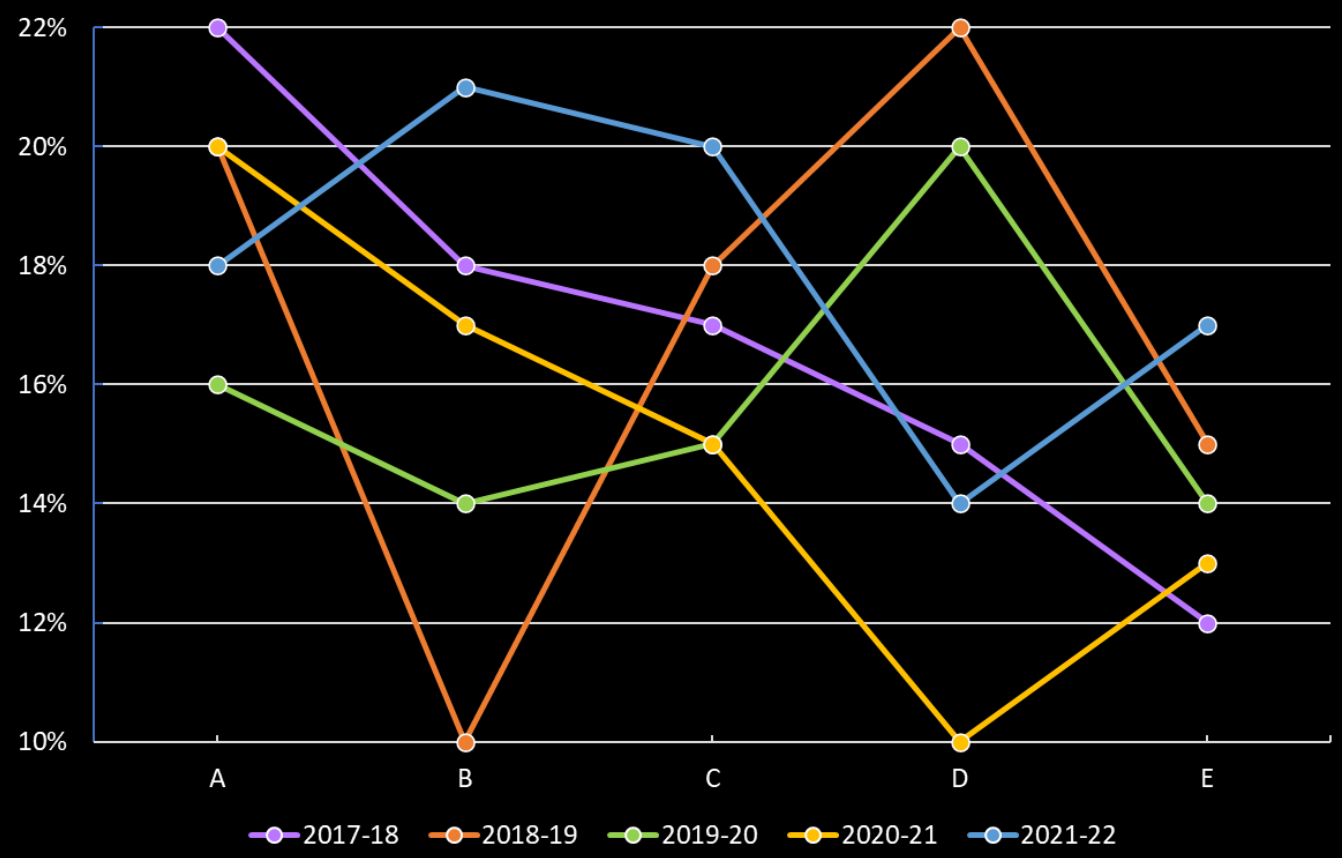
hexagonal



Multiple Charts

link ?





Foundation Batch: Multiple Charts

Word Problems

(caselets)

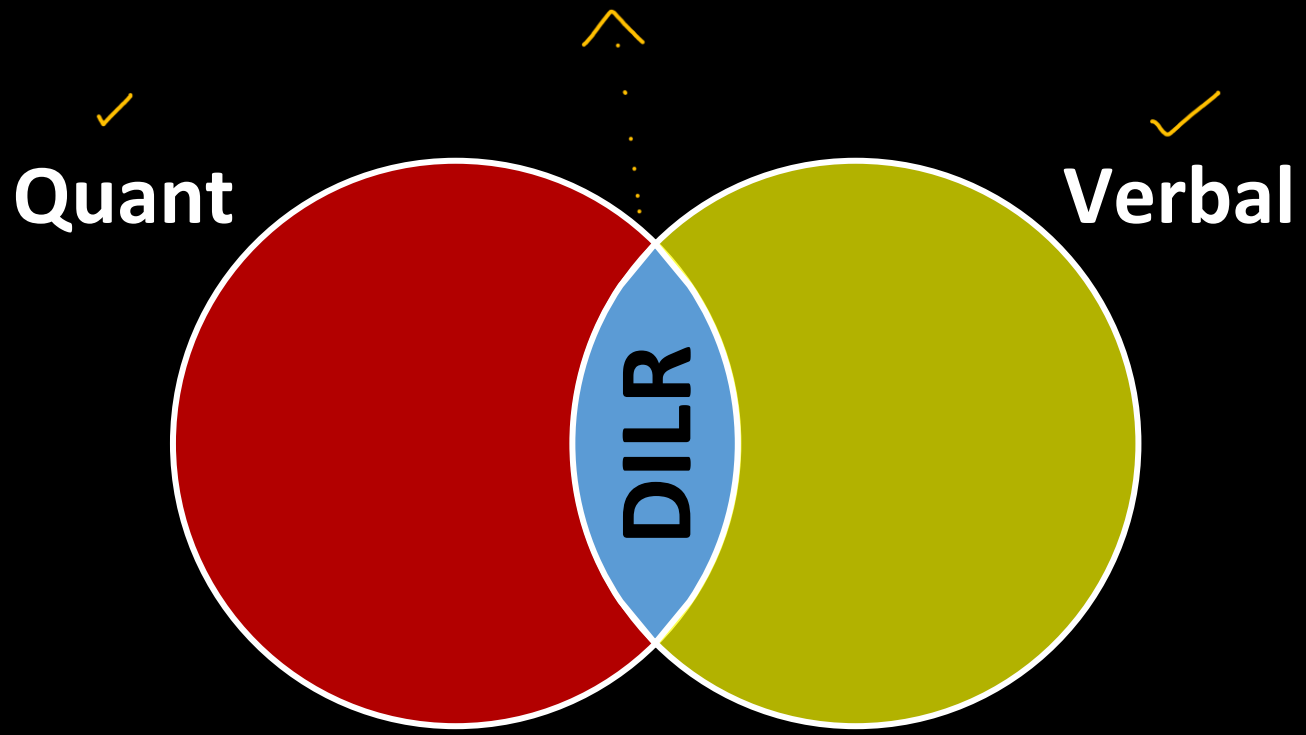
verbal skills

No tables or charts.
Information and data given in the form of text.

Foundation Batch: Word Problems

Things To Remember

1. Read the instructions, clues & conditions thoroughly to avoid silly mistakes.
2. Make a habit of writing down important & relevant information.
3. HIDE the questions immediately after reading the instructions.
4. Never judge a set by its size/looks.



Things To Follow In Class

1. BE PATIENT!
2. Accuracy > Time
3. No “repeat”.
4. Don’t ask “Kya yeh CAT Level set hai? Kya CAT aisa set puchega? Important topics kya hai?”
5. Solve along with me.
6. Solve by yourself again after class.
7. Solve DPPs.
8. Practice is most important!

2 Mins Summary

1. Basics of DI

Thank You