



Mission

CAT 2021

DI New Series *for* CAT 2021 & CMAT

Calculation Based DI & Graphs



Session 1

Weightage In
CAT

~~20~~ Marks
12.

% Change

AAGR

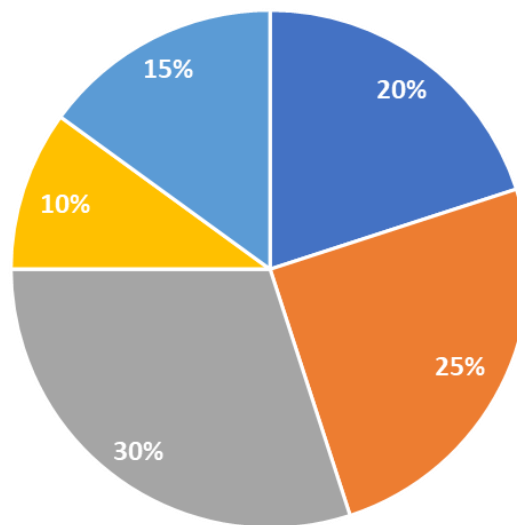
Inflation

CAGR

Growth

Discount Code

SHAH10



■ A ■ B ■ C ■ D ■ E



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Target 99

The banner features the Unacademy logo at the top. Below it, the title 'Unacademy Champions League' is prominently displayed. A central orange banner states 'WIN Prize Worth* INR 50,000+'. Below this, four prize categories are listed: RANK 1 (Rs 10,000 Amazon Voucher & 1 month Subscription), RANK 2 (Rs 7,500 Amazon Voucher & 1 month Subscription), RANK 3 (Rs 5,000 Amazon Voucher & 1 month Subscription), and RANK 4-10 (1 month subscription). The date and time '31 January | 5 pm' are circled in red. At the bottom, the 'Unlock Code: **SHAH10**' is shown, with the code itself circled in red. A small footnote at the bottom left states '*Total Worth of rewards is 50k+'. There are red checkmarks and lines drawn over the banner, particularly around the prize details and the unlock code.

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Unacademy Champions League

WIN Prize Worth*
INR 50,000+

RANK 1	RANK 2	RANK 3	RANK 4-10
INR 10,000 Amazon Voucher & 1 month Subscription	INR 7,500 Amazon Voucher & 1 month Subscription	INR 5,000 Amazon Voucher & 1 month Subscription	1 month subscription

31 January | 5 pm

Total Worth of rewards is 50k

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- ✓ **Calculation Short cuts**
- ✓ **Important Concepts**
- ✓ **Introduction to various Charts**



Ronak Shah

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On Telegram

Ronak Shah



MBA (Marketing), BE (E&TC)



12 Years of CAT Training Experience & 5 Years of Industry Exp.



Scored 99 Percentile in CAT 2012 and 2015



Digital Marketer

LIVE Daily

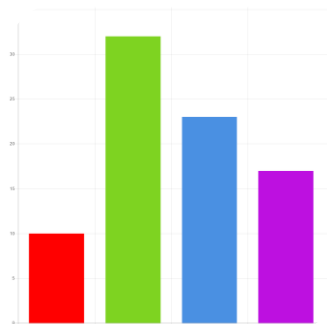


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2₃ 5₇ 11

Quant



DI



LR



Interview &
College Selection

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Social Media

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● **LIVE** Daily



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Inflation/Deflation

10%
OFF

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The table below shows the quantity (in kg) of wheat that can be purchased for Rs. 200 in the year 2018, 2019, 2020. What is the rate of Inflation in the Year 2019, w.r.t 2018?

Year	Qty.
2018	12.5 kg
2019	10
2020	11

Price/kg
Rs. 16
Rs. 20 \rightarrow $\uparrow 25\%$

$$\frac{\text{Diff.}}{\text{Ref}} \times 100\%$$

$$\frac{4}{16} \times 100\%$$

16 \rightarrow 20

$\uparrow 25\%$

Let's Discuss @



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Inflation/Deflation

10% OFF

SHAH10

The table below shows the quantity (in kg) of wheat that can be purchased for Rs. 200 in the year 2018, 2019, 2020. What is the rate of deflation in the Year 2020, w.r.t 2019?

Year	Qty.
2018	12.5
2019	10
2020	11

Price/kg.

$$\frac{200}{11} = 18.18$$

$$20 \xrightarrow{1.82} 18.18$$

$$\frac{1.82}{20} \times 100\%$$

$$9.09\% \downarrow$$

$$9.09\% \downarrow$$

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Averages

Schedule

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Crack CAT 2020 With Flying Colors

 Shivam Chandak 99.98 %ile LRDI 100 %ile	 Aditya Gupta 99.96 %ile		
 Yatharth Singh 99.91 %ile	 Arkadip Das 99.59 %ile	 Anushka Biswas 99.55 %ile	 Mitesh Mishra 99.54 %ile
 Shreshth Hari 99.26 %ile	 Piyush Pratik 99.25 %ile	 Nikhil Sharma 99.18 %ile	 Siddharth Malu 99.12 %ile

You could be next!

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ENROLL NOW !

 <p>22nd JANUARY</p> <p>Late Night Weekday Batch for CAT 2021</p> <ul style="list-style-type: none">• Hitesh Hariramani• Dhrubajyoti Banik• Ritu Dudhoria	 <p>25th JANUARY</p> <p>Exclusive Weekday Evening Batch for CAT 2021</p> <ul style="list-style-type: none">• Himanshu Das• Nilanjan Dutta• Agnimitra Aman	 <p>28th JANUARY</p> <p>Absolute Weekday Batch for CAT 2021</p> <ul style="list-style-type: none">• Ananda Kulkarni• Bobby Yadav• Ravi Prakash• R. P. Singh
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IIM A IIM B IIM C



ASK A DOUBT

Doubt clearing feature is live now !!!

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CAT
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<input checked="" type="radio"/>	12 months	58% OFF	₹1,458 per month	₹17,500 Total (Incl. of all taxes)
<input type="radio"/>	24 months	75% OFF	₹875 per month	₹21,000 Total (Incl. of all taxes)
<div> SHAH10 Proceed to pay</div>				



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Finding Average

10% OFF

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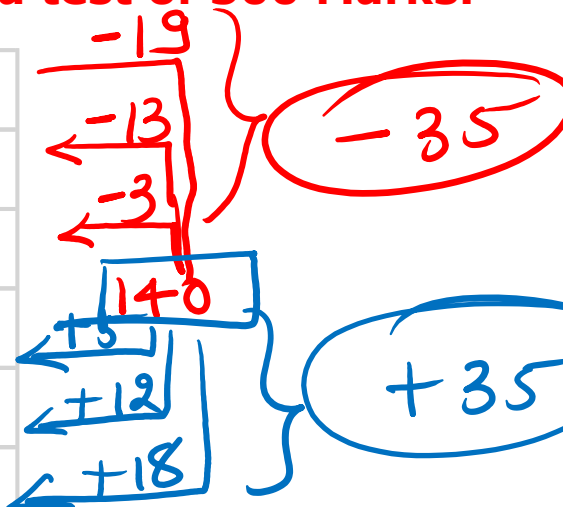
Find the Average Marks obtained by 6 students in a test of 300 Marks.

S.C

Assumed Avg.

6
Nos.

121
127
137
145
152
158



0

Handwritten calculation showing a correction:

$$\frac{-35 + 29}{6} = -1$$

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% Difference Vs. % Change

10% OFF

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The following tables provides the data about sales (in Rs. Cr) of 5 companies in a Market. The total market size was Rs. 1200 Cr. in 2019 and 2020.

Find the % Change in the Market share of these 5 companies (together) from 2019 to 2020.

✓ Change in m.s.

✓ % 1200 1200

Year	2019	2020
A	20	40
B	30	30
C	50	60
D	80	120
E	120	150

Total. 300 400 Cr.

Increase of

33.33%

$+ 8.33$

$25 = 33.33$

Market share

25% 33.33%

% Change

% Change

$= \frac{\text{Diff}}{\text{}} \times 100\%$

Ans

$= \frac{8.33}{25} \times 100$

Let's Discuss @



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% Difference Vs. % Change

10%
OFF

SHAH10

The following tables provides the data about sales (in Rs. Cr) of 5 companies in a Market. The total market size was Rs. 1200 Cr. in 2019 and 2020.

Find the numerical difference in % Market share of these 5 companies (together) between 2019 and 2020.

Year	2019	2020
A	20	40
B	30	30
C	50	60
D	80	120
E	120	150

Total. 300 Cr. 400 Cr.

M.S.
(in %)

25% 33.33%

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Numerical.

Diff. = 33.33%.

- 25%
= 8.33%



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Ratios – Quick Calculations

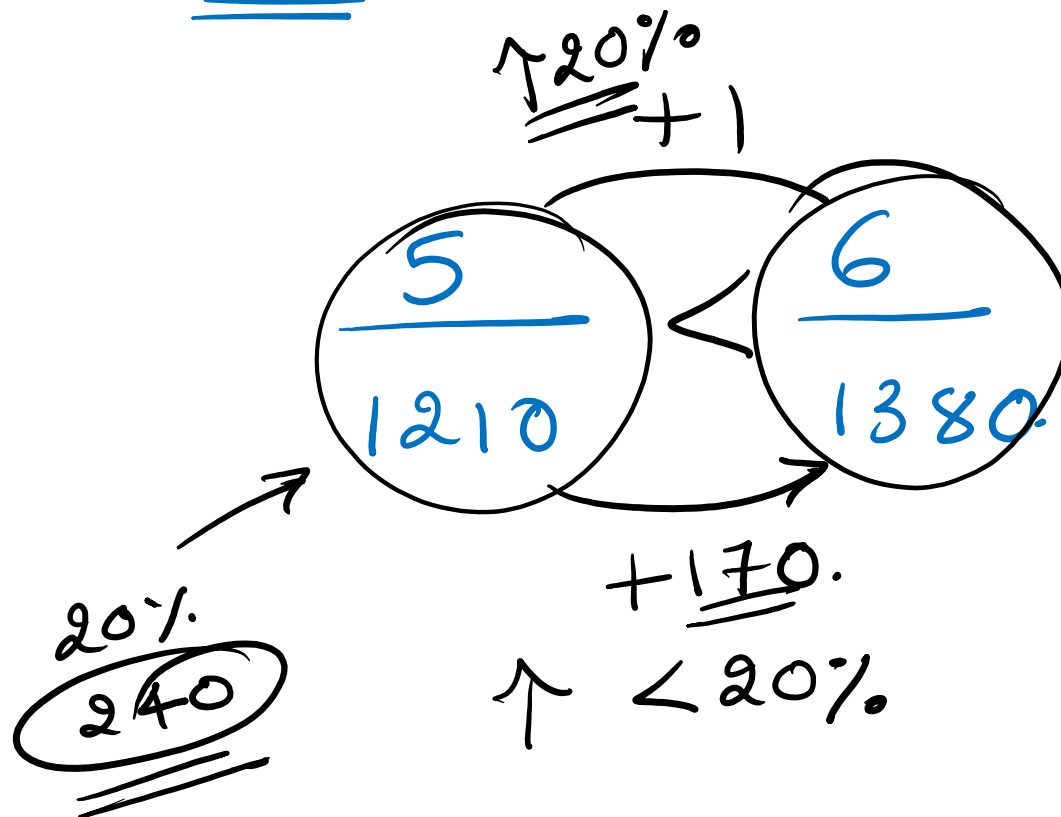
10%
OFF

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Which of the following Fractions are Greater?

I. $30/200 < 40/210$

II. $\underline{\underline{5/1210}} \quad 6/1380$



Application of ✓

>

<

=

??

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Q. 1



In case of Type Q laptop, in which year was the ratio of rejection to production the highest among the given years?

- A. 2010 ✓
- B. 2011 ✓
- C. 2012 ✓
- D. 2013 ✓

Handwritten calculations for Type Q laptop:

- For 2010: $\frac{2}{20} = 0.1$ (labeled as 10%)
- For 2011: $\frac{3}{45} = 0.066$ (labeled as 6.6%)
- For 2012: $\frac{2.5}{40} = 0.0625$ (labeled as 6.25%)
- For 2013: $\frac{2.3}{42} = 0.054$ (labeled as 5.4%)

Comparison: $0.1 > 0.066 > 0.0625 > 0.054$

Conclusion: 2010 has the highest ratio.

The table below shows the information about number of laptops (figures in 1000s) of different models produced and rejected by a company over six years.

Number of laptops of different models produced and rejected by a company over the years (figures in 1000s)



Laptop model	P		Q		R		S		T	
Year	Produced	Rejected	Produced	Rejected	Produced	Rejected	Produced	Rejected	Produced	Rejected
2010	20	2	50	3	15	0.5	80	5	60	4
2011	35	3	45	2	20	0.55	75	4	58	4
2012	15	0.5	40	2.5	17	0.7	58	2	62	3.5
2013	25	0.25	42	2.3	25	1.5	65	3	40	1.5
2014	30	1.5	48	2.5	30	2	68	3	45	2
2015	27	1.5	41	2.1	26	1.75	72	3.5	50	2.3

Handwritten calculations for the ratio of rejection to production for each model:

- Model P: $\frac{2}{20} = 0.1$ (labeled as 10%)
- Model Q: $\frac{3}{45} = 0.066$ (labeled as 6.6%)
- Model R: $\frac{0.5}{15} = 0.033$ (labeled as 3.3%)
- Model S: $\frac{4}{58} = 0.068$ (labeled as 6.8%)
- Model T: $\frac{4}{62} = 0.064$ (labeled as 6.4%)

Comparison: $0.1 > 0.068 > 0.066 > 0.064 > 0.033$

Conclusion: Model P has the highest ratio.



Q. 2

In which year was the ratio of rejection to production the lowest among the given years for type T laptop?

- A.** 2010
- B.** 2012
- C.** 2013
- D.** 2014

The table below shows the information about number of laptops (figures in 1000s) of different models produced and rejected by a company over six years.

Number of laptops of different models produced and rejected by a company over the years (figures in 1000s)

Laptop model	P		Q		R		S		T	
Year	Produced	Rejected	Produced	Rejected	Produced	Rejected	Produced	Rejected	Produced	Rejected
2010	20	2	50	3	15	0.5	80	5	60	4
2011	35	3	45	2	20	0.55	75	4	58	4
2012	15	0.5	40	2.5	17	0.7	58	2	62	3.5
2013	25	0.25	42	2.3	25	1.5	65	3	40	1.5
2014	30	1.5	48	2.5	30	2	68	3	45	2
2015	27	1.5	41	2.1	26	1.75	72	3.5	50	2.3





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CAGR / AAGR

10%
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AAGR - Average Annual Growth Rate

$$\text{AAGR} = \frac{\text{Sum of growth rates in each year}}{\text{Total Number of Years}}$$



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CAGR / AAGR

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CAGR - Compounded Annual Growth Rate

$$\text{CAGR} = \left[\left(\frac{\text{Final Value}}{\text{Starting Value}} \right)^{\frac{1}{\text{Number of periods}}} - 1 \right] \times 100 \%$$



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CAGR / AAGR

10%
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The following table shows the sales figures of the two superbikes R125 and S130 for different years. The sales are represented in 1000 units sold. **What is AAGR for S130 from 2004 to 2007?**

Year	R125	S130
2017	24	51
2018	55	54
2019	67	59
2020	81	68



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CAGR / AAGR

10%
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The following table shows the sales figures of the two superbikes R125 and S130 for different years. The sales are represented in 1000 units sold. **What is CAGR for S130 from 2004 to 2007?**

Year	R125	S130
2017	24	51
2018	55	54
2019	67	59
2020	81	68



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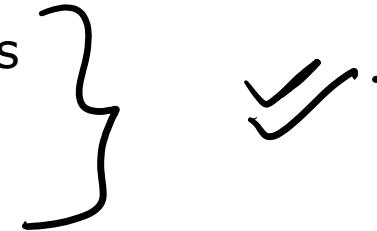
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Complete Arithmetic

8 PM on App (Free)

Weightage In
CAT

30 Marks



Discount Code

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