Quant

G Strategy Cutoffs Clearing Workshops

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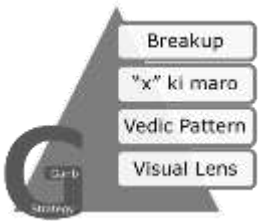

Importance of G Strategy in the CAT papers

Sr.	G Strategy	CAT 2021	CAT 2022	CAT 2023	CAT 2024	My
1	Breakup	9	6	7	10	
2	Vedic Patterns	2	4	2	3	
3	Visual Lens	3	3	3	2	
4	X maro	2	2	3	3	
	Total	16	15	15	17	

Actual CAT PYQ	
Actual	2021 - 2024
Medium	2017 – 2020
Easy	2001 – 2008

Cutoffs	Minimum	Good
GEM	80%ile	90%ile
General	70%ile	80%ile
EWS / OBC	60%ile	70%ile
SC ST PwD	50%ile	70%ile

Quant	Marks
60%ile	9
70%ile	12
80%ile	15
90%ile	24
97%ile	33
99%ile	39

Quant Topic	Importance	Quant Topic	Importance
Quadratic Eqn	11	Remainders	4
Simple Eqn	10	Logarithm	4
Percentages	10	AP GP	3
Ratios	9	Interest	3
Surds & Indices	8	Averages	3
Maxima Modulus	8	Profit Loss	3
Areas	5	Functions	3
Algebra	5	TimeSpeed	3

mockniti

30	Full Length Mocks
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36	Baby Mocks G Strategy
23	CAT Actual Papers (2024 – 2017)
28	Quant CAT PYQ Topic Wise Tests
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For best results: go to IIMking.com, log in, and navigate to Assigned Courses > CAT G Strategy to view the G Strategy videos.

1. Breakup G Strategy 1

Worksheet: How to Break Down Complex Quant Questions
This worksheet will help students learn how to break tough quant question into simple, manageable sub-questions.

Read the question below
Amala, Bina, and Gouri invest money in the ratio 3 : 4 : 5 in fixed deposits having respective annual interest rates in the ratio 6 : 5 : 4. What is their total interest income (in Rs) after a year, if Bina's interest income exceeds Amala's by Rs 250?

STEP 1: QUICK READ - What is being asked?
Read the full question carefully.
Highlight or underline the final objective.
What is the final value or comparison the question wants you to find? Target Output: _____

STEP 2: IDENTIFY CONCEPTS
List down all Concepts mentioned in the question.
(Example: Interest, Mixtures, Ratios….)

STEP 3: CREATE SUB QUESTIONS
Write 2–4 smaller questions that, when answered in order, will lead to the final answer. *Example Format:*
What is the total amount after ___ years of interest?
What is the new value after adding/removing ___?
Your Sub-questions:
1. _____
2. _____
3. _____

STEP 4: SOLVE EACH SUB-QUESTION
Use step-by-step logic. If stuck, write the formula/concept you'd apply. Work Area:

STEP 5: COMBINE TO GET FINAL ANSWER
Summarize how your sub-answers combine into the final answer:
Final Step: _____
Answer: _____

STEP 6: REFLECTION:
Which step helped the most? _____
Which part felt confusing? _____
Can you now solve a similar question using the same strategy? ___

Working of Breakup Strategy

Read the question below and solve using steps
Amala, Bina, and Gouri invest money in the ratio 3 : 4 : 5 in fixed deposits having respective annual interest rates in the ratio 6 : 5 : 4. What is their total interest income (in Rs) after a year, if Bina's interest income exceeds Amala's by Rs 250?

STEP 1: QUICK READ - What is being asked?
Read the full question carefully.
Highlight or underline the final objective.
What is the final value or comparison the question wants you to find? Target Output: _____

STEP 2: IDENTIFY CONCEPTS
List down all Concepts mentioned in the question.
Ratios, Interest, Equations

STEP 3: CREATE SUB QUESTIONS
Write 2–4 smaller questions that, when answered in order, will lead to the final answer. *Example Format:*
Your Sub-questions:

1. *What is the interest income of Amala, Bina and Gouri in terms of x and y?*
2. *What equation can be formed using the condition: Bina's interest is Rs 250 more than Amala's?*
3. *Solve for xy and calculate each person's interest.*
4. *What is the total interest income?*

STEP 4: SOLVE EACH SUB-QUESTION

1. *Sub 1: Interest = Principal × Rate × Time = (investment) × (rate) × 1 = Amala = 3xy, Bina = 4xy, Gouri = 5xy*
2. *Sub 2: 4xy – 3xy = xy = 250 → So xy = 250*
3. *Sub 3: Amala = 750, Bina = 1000, Gouri = 1250*
4. *Sub 4: Total = 750 + 1000 + 1250 = Rs. 3000*

STEP 5: COMBINE TO GET FINAL ANSWER
Summarize how your sub-answers combine into the final answer: Final Step: *Add all interest incomes using found value xy = 250.*
Answer: *Rs. 3000*

STEP 6: REFLECTION:
Which step helped the most? → STEP 4 (breaking into income expressions)
Which part felt confusing? → Identifying how to form the equation from difference
Can you now solve a similar question using the same strategy? → Yes

CAT 1997 PYQ Variable Equations

1. Salesmen in company ABC are paid fixed salary and incentives. A man earns x % on the first 200000 rupees and y % on the rest of his Sales. If he earns Rs 70000 from Rs 400000 and Rs 90000 from Rs 500000 of Sales, find x (a) 20 (b) 15 (c) 25 (d) 18

Easy questions based on it

2. A man earns x % on the first 200000 rupees and y % on the rest of his Sales. If he earns Rs 70000 from Rs 400000 of total sales, which of the following equations holds true?

A) 2x + 3y = 90 B) 2x + 3y = 35
C) x + y = 90 D) x + y = 35

3. A man earns x % on the first 200000 rupees and y % on the rest of his Sales. If he earns Rs 90000 from Rs 500000 of total sales, which of the following equations holds true?

A) x + y = 35 B) 2x + 3y = 90
C) 2x + 3y = 35 D) x + y = 90

4. If x + y = 35 and 2x + 3y = 90, find the value of x.

A) 10 B) 15 C) 20 D) 25

1. First 2L at x% → Earning = 2000x
Next 2L at y% → Earning = 2000y
So, total income = 2000x + 2000y = 70000
→ Divide by 1000: 2x + 2y = 70 → Simplify: x + y = 35
First 2L at x% → 2000x; Next 3L at y% → 3000y
So, total income = 2000x + 3000y = 90000
→ Divide by 1000: 2x + 3y = 90
1. Step 1: From (1), express x: x = 35 – y
Step 2: Plug into (2): 2(35 – y) + 3y = 90
→ 70 – 2y + 3y = 90 → 70 + y = 90
→ y = 20 → x = 35 – 20 = 15

2. First 2L at x% → Earning = x/100x200000 = 2000x
Next 2L at y% → Earning = 2000y
So, total income = 2000x + 2000y = 70000
→ Divide by 1000: 2x + 2y = 70 → Simplify: x + y = 35

3. First 2L at x% → 2000x
Next 3L at y% → 3000y
So, total income = 2000x + 3000y = 90000
→ Divide by 1000: 2x + 3y = 90

4. Step 1: From (1), express x: x = 35 – y
Step 2: Plug into (2): 2(35 – y) + 3y = 90
→ 70 – 2y + 3y = 90 → 70 + y = 90
→ y = 20 → x = 35 – 20 = 15

CAT 2017 PYQ Interest + Percentages

Ravi invests 50% of his monthly savings in fixed deposits. Thirty percent of rest invested in stocks and rest goes into Ravi savings bank account. If the total amount deposited by him in the bank (for savings and fixed deposits) is Rs 59500 then Ravi's total monthly saving in Rs. is [TITA]

Easy questions based on it

1. Ravi invests 50% in fixed deposits. 30% of rest invested in stocks and rest in saving bank account. What portion is in bank (for savings and fixed deposits)?

A. 25% B. 85% C. 60% D. 90%

2. If 85% of the Ravi's salary in the bank is Rs. 59,500. Find Ravi's total monthly savings.

A) 59,500 B) 60,000 C) 69,000 D) 70,000

Solution 1. Ravi puts 50% in fixed deposits. From the remaining 50%, he invests 30% in stocks (i.e., 15% of total). The leftover 35% goes to savings account. So, total in bank = 50% + 35% = 85%. (B)
Solution 2. If 85% of savings is ₹59,500, then total savings = 59500 ÷ 0.85 = ₹70,000. (D)

CAT Level Questions based on it

1. Mr. Rishi invests 40% of his monthly savings in fixed deposit. 20% of the rest invested in stocks and rest goes into his savings bank account. If the total amount deposited by him in the bank (for savings and fixed deposit) is Rs. 176000 Rs. then Rishi total monthly saving in Rs. is: [TITA]

2. Jai Singh a Private firm employee invests every month 25% of his monthly savings in fixed deposit.10% of the rest he invested in share market and rest goes into his savings bank account. If the total amount deposited in the bank for savings and fixed deposit is Rs. 67500. Find his total savings in Rs. [TITA]

Solution CAT 2017 PYQ: Ravi puts 50% in fixed deposits. From the remaining 50%, he invests 30% in stocks (i.e., 15% of total). The leftover 35% goes to savings account. So, total in bank = 50% + 35% = 85%. Now 85%.X = 59500 => 85/100.X = 59500 => X = 59500 × 100/85 => X = 70000rs.
Q1. Let the total monthly savings of Rishi be X. 40% of total in fixed deposit. Now 20% of the rest in stocks = 20%. (100-40)%= 20/100.60=12%. Amount deposited in savings account = 100%- (40 + 12)% = 48%. Therefore, (40 +48)%.X= 176000 => 88%.X = 176000 => X = 176000 × 100/88 =>X = 200000
Q2 Solution- Let the total monthly saving of jai Singh is X. Since 25% of his savings in fixed deposit. 10% of the rest invested in share market = 10%. (100-25)% = 10%.75=7.5%. Now rest deposited in savings account= 100-(25+7.5)%= 67.5%. Now, (67.5+ 25)%.X = 67500 => 92.5/100.X = 67500 =>X = 67500 × 100/92.5 => 72972rs.

CAT Quant G Strategy

CAT 2021 PYQ Interest + Percentages

1. Mr. Pinto invests one-fifth of his capital at 6%, one-third at 10%, and the remaining at 1%, all at simple interest per annum. What is the minimum number of years required for the total interest earned to equal or exceed his initial capital? _____

2. Mr. Pinto invests one-fifth of his capital in A, one-third in B, and the remaining at C. Find the percentage investments in A B and C?
A) 25%, 30%, 45% B) 22%, 34.44%, 44.67%
C) 18%, 32%, 50% D) 20%, 33.33%, 46.67%

3. Mr. Pinto invests 20% of his capital at 6%, 33.33% at 10%, and 46.47% at 1%, all at simple interest per annum. Find the interest at end of the year?
A) 8% B) 5% C) 7% D) 6%

4. At 5% simple interest, What is the minimum number of years required for the total interest earned to equal or exceed initial capital Options: A) 21 B) 20 C) 22 D) 24

1. Find the share of each investment
A = 1/5 = 0.20 → 20%; B = 1/3 = 0.3333... → 33.33%
Now add A and B: A + B = 0.20 + 0.3333 = 0.5333 → 53.33%
So, remaining in C = 1 – 0.5333 = 0.4667 → 46.67%
Finding the interest in one year: Total= 100; Investments:
20% at 6% → 20 x 6% → 1.20
33.33% at 10% → 33.33 x 10%→3.33
46.67% at 1% → 46.67 x 1%→0.47
Total Interest = 1.20 + 3.33 + 0.47 = 5%
Using G Strategy at 5% interest per year to make 100% it will take exactly 20 years.

2. A = 1/5 = 0.20 → 20%; B = 1/3 = 0.3333... → 33.33%
Now add A and B: A + B = 0.20 + 0.3333 = 0.5333 → 53.33%
So, remaining in C = 1 – 0.5333 = 0.4667 → 46.67%

3. Assume total capital = 100; Investments:
20% at 6% → 20 x 6% → 1.20
33.33% at 10% → 33.33 x 10%→3.33
46.67% at 1% → 46.67 x 1%→0.47
Total Interest = 1.20 + 3.33 + 0.47 = 5

4. Using G Strategy 5% per year to make 100% it will take exactly 20 years.

Pro G Strategy Shortcuts

SI → Percentages
CI → Percentage Increase
Watch all G Strategy videos on SICI in Login.

CAT 2024 PYQ Interest + Percentages

Anil invests Rs 22000 for 6 years in a scheme with 4% interest per annum, compounded half-yearly. Separately, Sunil invests a certain amount in the same scheme for 5 years, and then reinvests the entire amount he receives at the end of 5 years, for one year at 10% simple interest. If the amounts received by both at the end of 6 years are equal, then the initial investment, in rupees, made by Sunil is
1) 20480 2) 20808 3) 20640 4) 20860

Easy questions based on this:
1. What is the final amount Anil receives after investing 22000 for 6 years at 4% per annum, compounded half-yearly? A) 27901 B) 31045 C) 25147 D) 24147
2. What is the final amount Sunil receives after investing Rs x for 5 years at 4% per annum, compounded half-yearly?
A) 1.22x B) 1.27x C) 1.33x D) 1.4x
3. If Sunil invests 1.22x amount for 1 year at 10% simple interest, what will be his final amount?
A) 1.22x B) 1.27x C) 1.34x D) 1.4x
4. If Sunil's final amount 1.34x equals Anil's final amount of ₹27,901; then find x?

CAT 2024 PYQ 2: Aman invests Rs 4000 in a bank at a certain rate of interest, compounded annually. If the ratio of the value of the investment after 3 years to the value of the investment after 5 years is 25 : 36, then the minimum number of years required for the value of the investment to exceed Rs 20000 is _____

CAT 2024 PYQ 1 Step 1: Find Anil and Sunil's final amount
A = P × (1.02)^12 ≈ 22000 x 1.26824 ≈ ₹27,901.28
Amount after 5 years S = x × (1.02)^10 ≈ 1.22x
Step 2: This is then reinvested at 10% simple interest for 1 year: SI = 1.1 x 1.22x = x × 1.3409
Step 3: Equating Anil and Sunil's amounts
x × 1.3409 = 27901.28 ⇒ x = 27901.28 / 1.3409 ≈ ₹20,816

1. Principal = ₹22,000; Rate = 2% per half-year
Period = 12 half-years
A = P × (1.02)^12 ≈ 22000 x 1.26824
2. Rate = 2% per half-year; Period = 10 half-years
Amount after 5 years S = x × (1.02)^10 ≈ 1.22x
3. Simple Interest = Principal × Rate × Time / 100 = x × 1.219 × 10 / 100 = 0.1219x
So, final amount = x × 1.219 + 0.1219x = x × 1.3409
4. x × 1.3409 = 27901; Solve for x ⇒ x ≈ ₹20,808

CAT 2024 PYQ 2 Amount = Principal × (1 + r)^n
Given the ratio of amounts after 3 and 5 years:
(1 + r)^3 / (1 + r)^5 = 25 / 36 ⇒ 1 / (1 + r)^2 = 25 / 36
⇒ (1 + r)^2 = 36 / 25 ⇒ 1 + r = 6 / 5
⇒ r = 6/5 - 1 = 1/5 = 0.2 = 20%

CAT 2022 PYQ Ratios + Equations + Matrix

In a village the ratio of number of males to females is 5:4. The ratio of number of literate males to number of literate females 2:3. The ratio of illiterate males to illiterate females is 4:3. If 3600 males in the village are literate then the total number of females in the village will be: A. 36000 B. 42000 C. 43200 D. None

Easy questions based on it

1. The ratio of literate males to literate females in a village is 2:3. If the number of literate males is 3600, what is the number of literate females?
A) 1800 B) 2700 C) 5400 D) 6000
2. If the total number of males and females in a village are in the ratio 5y:4y, and the number of literate males is 3600 and literate females is 5400. then the number of illiterate males and illiterate females are?
A. (5y – 3600), (4y – 5400) B. (5y – 5400), (4y – 3600)
3. Find the value of y if (5y - 3600) / (4y - 5400) = 4 / 3
A) 10800 B) 7200 C) 5400 D) 9000

Easy Questions Solutions-
1. Let Ratio of literate males to females is 2x:3x
If males 2x = 3600, then x = 1800.
Literate females = 3x = 5400. Correct answer: C) 5400
2. Total males = 5y, literate males = 3600, so illiterate males = 5y – 3600. Total females = 4y, literate females = 5400, so illiterate females = 4y – 5400. Correct Answer: A. (5y – 3600), (4y – 5400)
3. Given ratio: (5y – 3600)/(4y – 5400) = 4/3.
Cross-multiplying:
3(5y – 3600) = 4(4y – 5400) → 15y – 10800 = 16y – 21600
Solving: y = 10800. Correct answer: A) 10800

CAT Questions Solutions-
PYQ SOLUTION - The ratio of number of literate males to females is 2:3 be 2x and 3x
Since the number of literate males is 3600
=> 2x = 3600 => x = 1800
So, number of literate females will be 3x = 3.1800 = 5400
Let the total number of males to females in ratio 5:4 be 5y and 4y

Group	Literate	Illiterate	Total
Males	3600	4b	3600 + 4b
Females	5400	3b	5400 + 3b
Total Ratio	—	—	M : F = 5 : 4

No. of illiterate males= 5y-3600
No. of illiterate females = 4y- 5400
Now according to question
5y-3600/4y-5400 = 4/3 => 3(5y-3600) = 4(4y-5400)
=> 15y-10800 => 16y - 21600 =>
On solving y = 10800.
So total females will be 4xy= 4.10800 => 43200. Ans C.

Group	Literate	Illiterate	Total
Males	3600	50400	54000
Females	5400	37800	43200

Pro G Strategy Shortcuts

When you see Categories - Male Female, Veg NonVeg, etc.
Use Percentages Matrix Strategy to solve question.
See video in login in Percentages Section.

CAT 2024 PYQ Ratios + Matrix

Rajesh and Vimal own 20 hectares and 30 hectares of agricultural land, respectively, which are entirely covered by wheat and mustard crops. The cultivation area of wheat and mustard in the land owned by Vimal are in the ratio of 5 : 3. If the total cultivation area of wheat and mustard are in the ratio 11 : 9, then the ratio of cultivation area of wheat and mustard in the land owned by Rajesh is
1) 1 : 1 2) 4 : 3 3) 7 : 9 4) 3 : 7

Easy questions based on this

1. If total land is assumed to be 200 hectares and the land owned by Rajesh and Vimal is in the ratio 2:3, how much land does each own Rajesh, Vimal in ha?
A) 80, 120 B) 120, 80 C) 60, 140 D) 20, 120

2. If Vimal owns 120 ha, and the wheat to mustard ratio on his land is 5:3, how much of his land is under wheat and mustard respectively?
A) 110, 90 B) 120, 80 C) 60, 140 D) 75, 45

3. If total land is 200 hectares and wheat to mustard cultivation is in the ratio 11:9, what is the total wheat and mustard area?
A) 110, 90 B) 120, 80 C) 60, 140 D) 75, 45

4. If Vimal contributes 75 ha of wheat and 45 ha of mustard, what is the ratio of wheat to mustard on Rajesh's land? 1) 1 : 1 2) 4 : 3 3) 7 : 9 4) 3 : 7

1. The total land = 200 hectares. Rajesh : Vimal = 2 : 3
Total parts = 2 + 3 = 5 parts
So, Rajesh's land = (2/5) × 200 = 80 hectares
Vimal's land = (3/5) × 200 = 120 hectares
2. Vimal's total land = 120 hectares; wheat: mustard = 5 : 3
Wheat = 5/(3+5) × 120 = 75 hectares
Mustard = 3/(3+5) × 120 = 45 hectares
3. Ratio = 11 : 9 → Total parts = 20; Total wheat = (11/20) × 200 = 110 ha; Total mustard = (9/20) × 200 = 90 ha
4. Rajesh's wheat = 110 – 75 = 35 ha, Rajesh's mustard = 90 – 45 = 45 ha; So, Ratio = 35 : 45 = 7 : 9

CAT 2024 PYQ Assume total land = 200 hectares
→ Rajesh owns 80 ha, Vimal owns 120 ha (same ratio as 2:3)
Given for Vimal's 120 ha: Wheat : Mustard = 5 : 3

Name	Wheat	Mustard	Total
Rajesh	R_w	R_m	80
Vimal	5x = 75	3x = 45	120
Total	11k = 110	9k = 90	200

So, wheat = (5/8) × 120 = 75 ha, Mustard = (3/8) × 120 = 45
Also given: Total wheat : mustard = 11 : 9
So total wheat = (11/20) × 200 = 110 ha
Total mustard = (9/20) × 200 = 90 ha
Now subtract Vimal's part to find Rajesh's:
Wheat = 110 – 75 = 35 ha, Mustard = 90 – 45 = 45 ha
Ratio = 35 : 45 = 7 : 9

CAT 2024 Ratios + Percentages

In September, the incomes of Kamal, Amal and Vimal are in the ratio 8 : 6 : 5. They rent a house together, and Kamal pays 15%, Amal pays 12% and Vimal pays 18% of their respective incomes to cover the total house rent in that month. In October, the house rent remains unchanged while their incomes increase by 10%, 12% and 15%, respectively. In October, the percentage of their total income that will be paid as house rent, is nearest to 1) 13.26 2) 14.84 3) 12.75 4) 15.18

Easy questions based on it

1. The incomes of Kamal, Amal and Vimal are in the ratio 8x, 6x, and 5x. They rent 15%, 12% and 18% of their respective incomes respectively. Find how much rent does each pay (as % of their own income)?
(A) 1.2x, 0.72x, 0.9x (B) 1.2x, 0.72x, 1.9x

2. The incomes of Kamal, Amal and Vimal are in the ratio 8x: 6x: 5x. What are their new incomes next month after increasing by 10%, 12%, and 15%?
(A) 8.8x, 6.72x, 5.75x (B) 9.3x, 6.72x, 5.80x

3. If Total rent remains 2.82x and new total income 21.27x. the percentage of their total income that will be paid as house rent, is nearest to A) 11.50 B) 13.26

1. A: Incomes: 8x, 6x, 5x | Rent paid as 15%, 12%, and 18%.
Kamal: 15% of 8x = 0.15 × 8x = 1.2x,
Amal: 12% of 6x = 0.12 × 6x = 0.72x,
Vimal: 18% of 5x = 0.18 × 5x = 0.9x
2. A: Kamal: 8x × 1.10 = 8.8x; Amal: 6x × 1.12 = 6.72x
Vimal: 5x × 1.15 = 5.75x
3. B. % Rent = (2.82x / 21.27x) × 100
x cancels → (2.82 / 21.27) × 100 ≈ 13.26%

CAT PYQ 2024: n September, Kamal, Amal, and Vimal earn in the ratio 8 : 6 : 5. Suppose their incomes are 8x, 6x, and 5x. Kamal pays 15% of his income as rent, which is 1.2x. Amal pays 12% of his, which is 0.72x. Vimal pays 18% of his, which is 0.9x. So, the total rent they pay is 2.82x. In October, the house rent stays unchanged, but their incomes increase. Kamal's income becomes 8.8x (10% more), Amal's becomes 6.72x (12% more), and Vimal's becomes 5.75x (15% more). Their total income in October is 21.27x. So, the percentage of income paid as rent in October is: (2.82x / 21.27x) × 100 = approx. 13.26%

CAT 2024 Profit Loss + Percentages Increase

In an examination the score of A's was 10% less than that of B the score of B's was 25% more than C and the score of C's was 20% less than that score of IF A scored 72 marks, then the score of D's was: [TITA] CAT 2019

Easy questions based on it

1. If A scored 10% less than B and A scored 72 marks, what is the score of B? A) 80 B) 75 C) 78 D) 70

2. If B scored 25% more than C and B = 80, what is the score of C? A) 80 B) 75 C) 78 D) 64

3. If C scored 20% less than D and C = 64, what is the score of D? A) 80 B) 75 C) 78 D) 64

Solution:
A = 90% of B → 0.9 × B = 72 → B = 72 / 0.9 = 80 (A)
B = 125% of C → 1.25 × C = 80 → C = 80 / 1.25 = 64 (D)
C = 80% of D → 0.8 × D = 64 → D = 64 / 0.8 = 80 (A)

CAT 2024 PYQ: Bina incurs 19% loss when she sells a product at Rs. 4,860 to Shyam, who in turn sells this product to Hari. If Bina would have sold this product to Shyam at the purchase price of Hari, she would have obtained 17% profit. Then, the profit, in rupees, made by Shyam is ____ TITA

CAT 2021 PYQ: In a competition, the distance run by P was 12% less than Q. The distance covered by Q was 18% more than R, and the distance covered by R was 15% less than the distance covered by S. The distance covered by S is 20% less than T. If P covered 150 meters, what was the distance covered by T?{TITA]

Solutions-
PYQ : CAT 2019 Solution . Let the score of D = 100d. Then
Score of C = 20% less than that of D = 80d
Score of B = 25% more than C = 100d
Score of A =10% less than B = 90d
If 90d = 72 =>Then 100d = 72×100/90= 80
PYQ CAT 2021 Solution Let the distance covered by T = 100t
S = 0.8T = 80t; R = 0.85S = 0.85×80 = 68t
Q = 1.18R = 1.18×68 = 80.24t,
P = 0.88Q = 0.88×80.24 = 70.611t
If P = 150 => 150 = 70.611t → t = 150 / 70.611 ≈ 2.124
→ T = 100t = 212.4 ≈ 212
PYQ CAT 2024 Solution
Bina sells to Shyam at Rs. 4860 with a 19% loss
→ Cost price = 4860 ÷ 0.81 = Rs. 6000
If she sold at Hari's price, she'd make 17% profit
→ Hari's price = 6000 × 1.17 = Rs. 7020
Shyam bought at 4860 and sold at 7020
→ Profit = 7020 – 4860 = Rs. 2160

CAT 2024 Ratios + Equations Ages

When Rajesh's age was same as the present age of Garima, the ratio of their ages was 3 : 2. When Garima's age becomes the same as the present age of Rajesh, the ratio of the ages of Rajesh and Garima will become 1) 2 : 1 2) 3 : 2 3) 4 : 3 4) 5 : 4

Easy questions based on it

1. When Rajesh was as old as Garima is now, the ratio of their ages was 3x:2x. How old is Garima Now?
A) x B) 2x C) x/2 D) 3x

2. When Rajesh was as old as Garima is now, the ratio of their ages was 3x:2x. What is the age difference between Rajesh and Garima? A) x B) 2x C) x/2 D) 3x

3. If present age of Garima is 3x and Rajesh is x years older than her. How much will be Garima's age when she will reach Rajesh's current age? A) 4x B) 2x C) x D) 3x

3. When age of Garima will 4x and Rajesh is x years older than her. How much will be Rajesh's age?
A) 4x B) 2x C) 5x D) 3x

CAT level: The ratio of the age of a man and his wife is 4 : 3. After 4 years, this ratio will be 9 : 7. If at the time of the marriage, the ratio was 5 : 3, then how many years ago they were married? A. 16 B. 18 C. 12 D. 10

Solutions 1. When Rajesh was as old as Garima is now, their ages were in the ratio 3x:2x. This means Garima's age at that time was 2x, and since that is the age Rajesh had when he was as old as Garima is now, it means Garima's present is 2x. (B)
2. Given the ratio of their ages at that time was 3x to 2x, we can calculate the age difference as 3x – 2x = x. Since age difference remains constant, the age difference between Rajesh and Garima is x. (A)
3. Garima's present age is given as 3x, and Rajesh is x years older than her. That means Rajesh is currently 4x. So, Garima will reach Rajesh's current age in (4x – 3x) = x years. Hence, when she reaches Rajesh's age, her age will be 3x + x = 4x. (A)
4. If Garima's age becomes 4x and Rajesh is x years older than her, then Rajesh's age at that time will be 4x + x = 5x. (C)
PYQ Soln (4): When Rajesh was as old as Garima is now, their age ratio was 3:2. Let their ages then be 3x and 2x, so the age difference is x. This means Garima's present age is 3x and Rajesh's is 4x. When Garima becomes 4x, she will take x more years, and Rajesh will be 5x. So, the final ratio 5 : 4.
CAT level Solution (C): Let man and wife ages be 4x and 3x.
After 4 years, (4x + 4) / (3x + 4) = 9 / 7
Solving: 7(4x + 4) = 9(3x + 4) => 28x + 28 = 27x + 36 => x = 8.
So, their present age: Man = 4x = 32, Wife = 3x = 24 yrs.
Now, assume they got married y years ago with ratio 5:3:
So, (32 – y) / (24 – y) = 5 / 3 => 3(32 – y) = 5(24 – y)
=> 96 – 3y = 120 – 5y => 2y = 24 → y = 12

CAT 2023 Percentages + Averages

In a company 20% of the employees works in the Mfg. department. If the total salary obtained by all the Mfg. employees is one-sixth of the total salary obtained by all the employees in the company then ratio of the average salary obtained by the manufacturing employees to the average salary obtained by the non- Mfg. employees is:
A. 6:5 B. 4:5 C. 5:4 D. 5:6

Easy questions based on it

1. Employees: Let's assume total of 100 employees, if 20% work in Mfg., what is number of employees in non-Mfg.? A) 70 B) 80 C) 60 D) 40
2. Salaries: Let x be the total salary obtained by all the employees in the company. If Mfg. employees is one-sixth of the total. Find the total salary of Mfg. and Non-Mfg.? A) x/6, 3x/5 B) x/6, 5x/6 C) x/5, 6x/5 D) x/5, 4x/3
3. Based on the above two questions, Find the ratio of the average salary obtained by the Mfg. employees to the average salary obtained by the non- Mfg. employees? A. 6:5 B. 4:5 C. 5:4 D. 5:6

Solutions- 1. Total employees = 100, 20% in manufacturing
⇒ Non-manufacturing = 100 - 20 = 80. Answer: B) 80
2. Total salary = x; Mfg. salary = (1/6)x
Non-Mfg. salary = x - (1/6)x = (5/6)x Answer: B)
3. Mfg.: 20 employees, salary = (1/6)x ⇒ Avg = (1/6)x ÷ 20 = x/120; non-Mfg.: 80 employees, salary = (5/6)x ⇒ Avg = (5/6)x ÷ 80 = x/96. Final Ratio = (x/120) : (x/96) = 96 : 120 = 4 : 5 (B)

CAT Level Questions based on it

1. BISLA pvt company has 40% of the employees working in a manufacturing department. Total salary obtained by these manufacturing employees is 1/3 of the total salary obtained by all employees in the company then ratio of Average salary of manufacturing employees to Average salary of non-manufacturing employees is : A. 4:5 B. 3:4 C.5:4 D.4:3

Solution CAT 2023 PYQ: Let total employees = 100 ⇒ Mfg. = 20, non-Mfg. = 80. Let total salary = x
Mfg. salary = (1/6)x ⇒ Avg = x/120
Non-Mfg. salary = (5/6)x ⇒ Avg = x/96
Ratio = x/120 : x/96 = 96 : 120 = 4 : 5 Ans B.

1. Solution: Let total employees = 100
⇒ Manufacturing employees = 40, non-manufacturing = 60
Let total salary = x
⇒ Manufacturing salary = (1/3)x, non-manufacturing = (2/3)x
Average salary (Mfg.) = (1/3)x ÷ 40 = x/120
Average salary (non-Mfg.) = (2/3)x ÷ 60 = x/90
Now, ratio = x/120 : x/90 = 90 : 120 = 3 : 4
Answer: B) 3:4

CAT 2024 Mixtures + Ratios + Fractions

A glass is filled with milk. Two-thirds of its content is poured out and replaced with water. If this process of pouring out two-thirds the content and replacing with water is repeated three more times, then the final ratio of milk to water in the glass, is

1) 1 : 26 2) 1 : 80 3) 1 : 27 4) 1 : 81

Easy questions based on it

1. In a glass, Two-thirds milk is removed and replaced with water twice. Find the milk remaining in the jar?

A) 1/8 B) 1/9 C) 2/3 D) 4/9

2. A glass is 1/9 full of milk, Two-thirds milk is removed and replaced with water twice. Find the milk remaining in the jar? A) 1/81 B) 1/50 C) 2/81 D) 4/81

3. A glass contains 1/81 milk and rest water. Find the ratio of milk to water in glass? 1) 80:1 2) 1:80 3) 81:1 4) 1:81

CAT Level

4. A container is completely filled with a chemical solution. One-fourth of it is removed and replaced with water. If this operation is performed four times in total, what will be the ratio of chemical solution to water in the container at the end?

A) 81:175 B) 175:81 C) 16:65 D) 65:16

5. A vessel is filled with pure alcohol. In a process, 30% of the alcohol is removed and replaced with water. This process is repeated four times. What is the final percentage of alcohol in the vessel?

A) 24.01% B) 30.72% C) 34.3% D) 27.73%

Solutions-

1 A. Each time two-third of the milk is removed, one-thirds remains. After two such steps, syrup left = $(1/3)^2$ = 1/9.(B)

2 A. further 1/3 left twice means 1/9 x 1/3 x 1/3 = 1/81 (A)

3. Milk is 1/81 means milk is 1 and water 80. Ratio 1:80

PYQ 2024 Solution: Option 2. Two-thirds of the glass's content is removed and replaced with water, and this process is repeated a total of four times. At each step, only one-third of the original milk remains. So, after four repetitions, the fraction of milk left is $(1/3)^4$ = 1/81. This means out of 81 parts of the final mixture; 1 part is milk and 80 parts are water. Therefore, the final ratio of milk to water is 1:80, making the correct answer option 2.

4 Answer: A. In each step, 1/4 is removed, so 3/4 remains. After 4 repetitions, remaining chemical = (3/4)^4 = 81/256. So, chemical : water = 81 : (256−81) = 81:175.

5 Answer: A. After each step, 70% alcohol remains. After 4 steps: alcohol left = 0.7x0.7x0.7x0.7 = 0.2401 = 24.01%.

CAT 2022 Percentages Votes + Ratios

In an election there were four candidates and 80% of the registered voters casted their votes. One of the candidates received 30% of the casted votes and other 3 candidates received the remaining votes in the ratio 1:2:3. If the winner of the election received 2512 more votes than the candidate with second highest votes. Then the number of registered voters: A. 50240 B. 60288 C. 40192 D. 62800

Easy questions based on it

1. If 80% of the registered voters cast their votes, if one of the candidates received 30% of the casted votes, how many votes did A candidate receive?

A) 24% B) 30% C) 28% D) 36%

2. If 80% of the registered voters cast their votes, 70% of the casted votes are divided among the other three candidates in the ratio 1:2:3. B got highest __ % votes?

A) 24% B) 30% C) 28% D) 36%

3. If the B with 28% votes got 2512 more votes than the A, who got 24% votes. then what is the total number of registered voters? A) 50240 B) 60288 C) 40192 D) 62800

CAT 1998 PYQ: 2/5th of the voters promises to vote for A and the rest promised to vote for B. Of these, on the last day 15% of the voters went back of their promise to vote for A and voted B and 25% of voters went back of their promise to vote for B to vote for A. If A lost by 200 votes, find the total number of voters? (a) 10000 (b) 11000 (c) 9000 (d) 9500

1. Votes cast = 80% of total, A receives 30% of casted votes
⇒ A's votes = 30% of 80% = 0.3 × 0.8 = 0.24 = 24% A

2. Remaining = 70% of casted = 70% of 80% = 0.7 × 0.8 = 56%. Now divide 56% in ratio 1:2:3 → Total parts = 6. B (highest) gets 3 parts ⇒ B's = (3/6) × 56% = 28% C

3. Difference = 28% – 24% = 4%; 4% of total voters = 2512
⇒ Total voters = 2512 ÷ 0.04 = 62,800 D

PYQ : Solution: One of the candidates got 30% of the casted votes => 30% of 80% = 30/100 × 80% = 24%

Remaining votes = 80 -24 = 56%. Other candidates get 1x 2x 3x. So, their votes% will be

1x = 1/6X × 56 = 9.33%; 2x = 2/6 X × 56 = 18.66%

3x = 3/6X × 56 = 28%. So, winner gets 28% votes

Now =>28% - 24% = 2512

4% = 2512 =>100% = 2512 × 100/4= 62800. Ans D.

CAT 1998 PYQ: A lost 15% of (2/5)x = 0.06x votes. B lost 25% of (3/5)x = 0.15x votes.

A's final votes = (2/5)x minus 0.06x plus 0.15x = 0.49x

B's final votes = (3/5)x minus 0.15x plus 0.06x = 0.51x

A lost the election by 200 votes, so:

0.51x – 0.49x = 0.02x = 200 => x = 200 / 0.02 = 10,000

CAT 2023 PYQ Mixtures + Ratios

Anil mixes cocoa with sugar in the ratio 3:2 to prepare the mixture A , and coffee with sugar in the ratio 7:3 to make the mixture B. He combines mixture A and B in the ratio 2:3 to make the new mixture C. If he mixes C with an equal amount of milk to make a drink , then the percentage of the sugar in this drink will be:
A. 17 B. 16 C. 21 D. 24

Easy questions based on it

1. Anil mixes cocoa and sugar in the ratio 3:2 to make Mixture A. What is the percentage of sugar in Mixture A? A) 40% B) 30% C) 50% D) 60%
2. If Anil mixes coffee and sugar in the ratio 7:3 to make Mixture B. What is the percentage of sugar in Mixture B? A) 40% B) 30% C) 50% D) 60%
3. Mixture A and B are mixed in the ratio 2:3. If sugar % in A is 40% and in B is 30%, what is the % sugar in the new Mixture C? A) 40% B) 30% C) 50% D) 34%
4. Mixture C (34% sugar) is mixed with equal amount of milk (0% sugar). What is the final sugar percentage in the drink? A) 40% B) 30% C) 17% D) 34%

Solution: 1. Total = 3 + 2 = 5 parts; Sugar % = 2/5 × 100 = 40%
2. Total = 7 + 3 = 10 parts; Sugar % = 3/10 × 100 = 30%
3. Using weighted average: Sugar % in C = (2×40 + 3×30) / (2+3) = (80 + 90) / 5 = 170 / 5 = 34%
4. Average of 34% and 0% = (34 + 0) / 2 = 17%

CAT based Questions

1. A shopkeeper mixes apple juice with sugar in the ratio 13:7 to prepare the mixture A , and mix fruit juice with sugar in the ratio 16:9 to make the mixture B. He combines mixture A and B in the ratio 4:5 to make the new mixture C. If he mixes C with double amount of new juice to make a new drink , then the percentage of the sugar in this drink will be nearest to :
A. 16 B. 18 C. 12 D. 10

PYQ : Solution :
Mixture A = Cocoa : Sugar = 3 : 2 → Sugar % = 2/(3+2) = 40%
Mixture B = Coffee : Sugar = 7 : 3 → Sugar % = 3/(7+3) = 30%
A and B are mixed in 2:3 → Weighted average sugar % in Mixture C: Step 1: Sugar % in C =
(2×40 + 3×30) / (2+3) = (80 + 90)/5 = 34%
Step 2: C is mixed with milk (0% sugar): (34 + 0)/2 = 17% (A)
1. Mixture A = Apple juice : Sugar = 13 : 7 → Sugar % = 7/(13+7) = 7/20 = 35%; Mixture B = Mix fruit juice : Sugar = 16 : 9 → Sugar % = 9/(16+9) = 9/25 = 36%
Step 1: Mix A and B in ratio 4:5 → Sugar % in Mixture C:
= (4×35 + 5×36) / (4+5) = (140 + 180)/9 = 320/9 ≈ 35.56%
Step 2: Mix Mixture C with double the amount of new juice (assume 0% sugar): This means ratio is 1 (Mixture C) : 2 (Juice) → Total parts = 3. Sugar % in drink = (1×35.56 + 2×0) / 3 = 35.56 / 3 ≈ 11.85% (C)

CAT 2024 PYQ Averages + Equations

The average of three distinct real numbers is 28. If the smallest number is increased by 7 and the largest number is reduced by 10, the order of the numbers remains unchanged, and the new arithmetic mean becomes 2 more than the middle number, while the difference between the largest and the smallest numbers becomes 64. Then, the largest number in the original set of three numbers is ____

Easy questions based on it

1. The average of three numbers is 28. What is the total sum of the three numbers? A) 84 B) 81 C) 74 D) 88

2. x is increased by 7, z decreased by 10, y is unchanged. The average of these is 2 more than the middle number. What equation represents this condition?
(A) x – z = 81 (B) x + z = 2y + 9 (C) x + y + z = 3y

3. After changes, the difference between largest and smallest becomes 64. If the smallest is x and the largest is z, what is the equation?
A) z – x = 64 B) z – x = 81 C) z + x = 64 D) z = x

4. Find the value of z from three statements?
x + y + z = 84; x + z = 2y + 9; z – x = 81
A. 86 B. 98 C. 70 D. 60

1. Answer: Since average = sum / 3, So, sum = 28 × 3 = 84
2. Answer: New average = (x + 7 + y + z – 10) / 3 = y + 2
⇒ (x + y + z – 3) / 3 = y + 2 ⇒ x + y + z – 3 = 3y + 6
⇒ x + z = 2y + 9
3. New difference: (z – 10) – (x + 7) = 64 ⇒ z – x = 81
4. x + y + z = 84; x + z = 2y + 9; z – x = 81
We'll solve step by step: From equation 3: z = x + 81 → (1)
From equation 2: x + z = 2y + 9
Substitute z from (1):
x + (x + 81) = 2y + 9 => 2x + 81 = 2y + 9
⇒ 2x – 2y = –72 ⇒ x – y = –36 → (2)
Now from equation 1: x + y + z = 84
Substitute z = x + 81 from (1):
x + y + (x + 81) = 84
2x + y = 3
Now substitute y = x + 36 (from equation 2):
2x + x + 36 = 3
3x = –33
x = –11
Then z = x + 81 = –11 + 81 = 70.
PYQ answer: same as above.

CAT 2024 Percentages + Ratios

In September, the incomes of Kamal, Amal and Vimal are in the ratio 8 : 6 : 5. They rent a house together, and Kamal pays 15%, Amal pays 12% and Vimal pays 18% of their respective incomes to cover the total house rent in that month. In October, the house rent remains unchanged while their incomes increase by 10%, 12% and 15%, respectively. In October, the percentage of their total income that will be paid as house rent, is nearest to

1) 13.26 2) 14.84 3) 12.75 4) 15.18

Easy questions

1. The incomes of Kamal, Amal and Vimal are in the ratio 8x, 6x, and 5x. They rent 15%, 12% and 18% of their respective incomes respectively. Find how much rent does each pay (as % of their own income)?

(A) 1.2x, 0.72x, 0.9x (B) 1.2x, 0.72x, 1.9x

2. The incomes of Kamal, Amal and Vimal are in the ratio 8x: 6x: 5x. What are their new incomes next month after increasing by 10%, 12%, and 15%?

(A) 8.8x, 6.72x, 5.75x (B) 9.3x, 6.72x, 5.80x

3. If Total rent remains 2.82x and new total income 21.27x. the percentage of their total income that will be paid as house rent, is nearest to A) 11.50 B) 13.26 C) 15.22

1. Incomes: 8x, 6x, 5x | Rent paid as 15%, 12%, and 18% of incomes
Kamal: 15% of 8x = 0.15 × 8x = 1.2x
Amal: 12% of 6x = 0.12 × 6x = 0.72x
Vimal: 18% of 5x = 0.18 × 5x = 0.9x
2. New incomes after increases of 10%, 12%, and 15%
Kamal: 8x × 1.10 = 8.8x
Amal: 6x × 1.12 = 6.72x
Vimal: 5x × 1.15 = 5.75x
3. Rent remains 2.82x, new total income = 21.27x
% Rent = (2.82x / 21.27x) × 100
x cancels → (2.82 / 21.27) × 100 ≈ 13.26%

CAT PYQ 2024 In September, Kamal, Amal, and Vimal earn in the ratio 8 : 6 : 5. Suppose their incomes are 8x, 6x, and 5x. Kamal pays 15% of his income as rent, which is 1.2x. Amal pays 12% of his, which is 0.72x. Vimal pays 18% of his, which is 0.9x. So, the total rent they pay is 2.82x.
In October, the house rent stays unchanged, but their incomes increase. Kamal's income becomes 8.8x (10% more), Amal's becomes 6.72x (12% more), and Vimal's becomes 5.75x (15% more). Their total income in October is 21.27x. So, the percentage of income paid as rent in October is: (2.82x / 21.27x) × 100 = approx. 13.26%

CAT 2018 PYQ Mandays

1. Humans and robots can both perform a job but at different efficiencies. Fifteen humans and five robots working together take 30 days to finish the job, whereas five humans and fifteen robots working together take 60 days to finish it. How many days will fifteen humans working together (without any robot) take to finish it?
A) 36 B) 32 C) 45 D) 30

Easy questions

2. If fifteen humans (H) and five robots (R) working together take 30 days to finish the job, what is the total work in terms of H and R?
A) 450H + 100R B) 450H + 150R
C) 400H + 150R D) 300H + 100R

3. If five humans and fifteen robots working together take 60 days to finish the job, what is the total work in terms of H and R?
A) 250H + 900R B) 300H + 600R
C) 300H + 900R D) 350H + 750R

4. If 450H + 150R = 300H + 900R. What is the ratio of Human to Robot efficiency (H : R)?
A) 5 : 1 B) 3 : 2 C) 2 : 5 D) 1 : 5

5. Five humans and fifteen robots working together take 60 days to finish the job. 15 humans are working alone, how many days will they take to finish the same work? If five Human has efficiency of one Robots.
A) 30 days B) 36 days C) 32 days D) 45 days

1. B. Case 1: Total work = (15H + 5R) × 30
Case 2: Total work = 60 × (5H + 15R)
Equating both (since W is same):
450H + 150R = 300H + 900R → 150H = 750R → H = 5R
Case 3: 15 Humans (15H) alone will take x days
Total work = (5H + 15R) × (60 case2) = 15H
Put 1H = 5R → (5x5R + 15R) × 60 = 15x5R
40 × 60 = 75 × x → 2400 = 75x → x = 2400 ÷ 75 = 32

2. B. Total work = (15H + 5R) × 30 = 450H + 150R
3. C. Total work = (5H + 15R) × 60 = 300H + 900R
4. A. From 450H + 150R = 300H + 900R → 150H = 750R
→ H = 5R So H : R = 5 : 1 Correct option: A
5. C. Total work = (5H + 15R) × 60 = 15H
Put 1H = 5R → (5x5R + 15R) × 60 = 15x5R
40 × 60 = 75 × x → 2400 = 75x → x = 2400 ÷ 75 = 32

Pro G Strategy Shortcuts

Time & Work Mandays questions can be easily solved by using m1d1 = m2d2 formula

END