MBA Fastrack 2025
QUANTITATIVE APTITUDE
Ratio & its Application

DPP: 1

Q1 Three Friends A, B, and C have 364 rupees with them. If they split this amount in the ratio 3:4:6, find the amount received by B.
(A) 100 (B) 104
(C) 108 (D) 112

Q2 The ratio of marks scored by Ram and Shyam is in the ratio 3:4 and the ratio of marks scored by Shyam and Tom is in the ratio 5:7. If sum of their scores is 1260, find the score of Tom.
(A) 400 (B) 500
(C) 560 (D) 600

Q3 Two natural numbers are in the ratio of 6:7. If the sum of squares of these numbers is 765, find the absolute difference between the two numbers.
(A) 3 (B) 6
(C) 9 (D) 15

Q4 Two natural numbers are in the ratio 9:20. When 8 is added to both numbers, the ratio becomes 1:2. Find the bigger number.
(A) 40 (B) 60
(C) 70 (D) 80

Q5 The price of a stone is directly proportional to the square of its weight. The stone broke down into three pieces with weights in the ratio of 2:3:4. If the value of the stone decreased by 1352 rupees, find the original price of the stone.
(A) 2106 (B) 2268
(C) 1944 (D) 1782

Q6 The number of apples and mangoes in the first basket is 4:5, while the number of apples and mangoes in the second basket is 1:2. If the number of fruits in the second basket is four times that of the first basket, find the ratio of apples in the first basket to the second basket.
(A) 1:2 (B) 1:3
(C) 1:4 (D) 3:4

Q7 If $\frac{a}{6} = \frac{b}{8} = \frac{3c}{4} = \frac{5d}{12}$, find the value of $\frac{c+5d}{2a+b}$.
(A) $\frac{2}{3}$ (B) $\frac{3}{2}$
(C) $\frac{4}{3}$ (D) $\frac{3}{4}$

Q8 If 9a=12b=5c=18d=24e and the sum of the two largest numbers is 560, find the sum of the two smallest numbers.
(A) 175 (B) 225
(C) 275 (D) 325

Q9 The ratio of men to women in an office is 4:3. If the number of skilled men to unskilled women is 2:3, and the skilled people make up $\frac{2}{5}^{th}$ of the strength of the total office, find the ratio of skilled men to unskilled men.
(A) 1:4 (B) 2:3
(C) 3:7 (D) 1:9

Q10 Ram's score was $\frac{1}{8}^{th}$ the sum of the scores of Shyam and Pam. After revaluation, the score of every person increased by 9 marks and the ratio of marks scored by Shyam, Pam, and Ram was 10:5:3. Find the original score of Pam.
(A) 27 (B) 21
(C) 24 (D) 30

Q11 Three numbers are in the ratio 8: 7: 5 respectively and their sum is 900. When the largest number is decreased by 80 and the

other two numbers are increased by 35 each, then the respective ratio changes to:
(A) 9:10: 7 (B) 24: 28: 21
(C) 28: 35: 26 (D) 14: 15: 13

Q12 The ratio of the monthly income of P and Q is 6 : 7 and that of their monthly expenditure is 4: 5. If the income of P is twice the expenditure of Q, then what is the ratio between the savings of P and Q?
(A) 10: 9 (B) 9:10
(C) 3: 7 (D) 6:5

Q13 Some amount of money was given to Bhima, Nakul and Arjun by their mother such that the ratio of money received by Bhima to money received by Nakul and Arjun together is 3: 8 and the ratio of money received by Bhima to that received by Arjun is 6: 7. Find the ratio of money received by Nakul to money received by Bhima.
(A) 3:2 (B) 2:1
(C) 1:5 (D) 4:3

Q14 A number is divided into 3 parts. 6 times the third part is equal to the 8 times the second part, which is equal to 5 times the first part. In what ratio is the number divided?
(A) 5 : 8 : 6 (B) 24 : 15 : 20
(C) 6 : 8 : 5 (D) 20 : 16 : 23

Q15 A south Indian dish is made using two ingredients, Jaggery and Orange peels in the proportion 2: 5. The price of the jaggery is three times the price of the orange peels. The overall cost of production of a bottle of the dish is Rs. 520 including Rs.80 as labour charges. What is the value of jaggery used in a bottle of the dish?
(A) Rs 440
(B) Rs 200
(C) Rs 240
(D) Cannot be determined

Q16 A consultancy company, at the time of inflation, reduced the number of employees in the ratio 18 : 7, and the average salary per employee was increased in the ratio 8 : 15. By doing so, the company saved Rs. 97,500. What is the current expenditure (in Rs.) of the company on salary?

Q17 The monthly salaries of Karan and Arjun are in the ratio 7 : 8. If both of them get a salary increment of Rs. 1500 each, the new ratio becomes 52 : 59. What is the new monthly salary of Arjun (in Rs)?

Q18 Jitu's current age is fourteen years less than 1.8 times that of Chinu's. 30 years ago, Chinu's age was three year more than $\frac{2}{5}$th of Jitu's age. What is Jitu's present age in years ?

Q19 If the ratio of the population of town Timbuktoo to that of Gimbuktoo is 7:9. Total male population of Timbuktoo is equal to female population of Gimbuktoo and the ratio of the female population of Timbuktoo to the male population of Gimbuktoo be 2 : 3, then what is the ratio of the male population of Timbuktoo to the male population of Gimbuktoo?
(A) 1:3
(B) 1:2
(C) 1:4
(D) Cannot be determined

Q20 In an election with only two parties A and B, the ratio of number votes to A and B is in the ratio 4:5. The number of males to females who voted is 2:1. Two-thirds of the females voted for B. If one-fourth of the total votes of A and one-sixth the males votes of B were deemed invalid, B won the election by 18,000 votes. Find the number of women who voted for party A.
(A) 12,000 (B) 18,000
(C) 8,000 (D) 6,000

Q21 5 years ago, Father's age was twice the age of his son at that time. 10 years from now, the ratio of age of son to father will become 8:13. What is the current age of son?

(A) 20 (B) 30
(C) 35 (D) 25

Q22 The number of toys with Tina and Reetu are in the ratio of 3:8. Reetu gave away some of her toys to Tina such that the number of toys with Tina and Reetu are in the ratio of 5:6. What fraction of her toys did Reetu give away to Tina?

(A) $\frac{1}{2}$ (B) $\frac{5}{8}$
(C) $\frac{3}{8}$ (D) $\frac{1}{4}$

Q23 The salaries of A, B, and C are in the ratio 4:5:6. The ratio of A's old salary to new salary is in the ratio 2:3, While the new Salary of B and C is equal. If the total sum of old and new salaries is in the ratio 3:4, find the ratio of old salary and new salary of C.

(A) 6:10 (B) 2:3
(C) 6:7 (D) 6:5

Q24 The number of kids, teens, and adults visiting a park is in the ratio of 3:6:8, and the ticket price for them is in the ratio of 4:6:5. If the Teens generated 3,600 more rupees than the kids, find the total revenue of the park (in rupees).

(A) 13,200 (B) 17,600
(C) 22,000 (D) 11,600

Q25 The salaries of Ram and Shyam are in the ratio 4:5. After increase in salaries, the ratio now becomes 8:11. If Rams's salary increased by 25%, find the percentage increase in the salary of Shyam

(A) 12.5 (B) 25
(C) 37.5 (D) 50

Q26 The number of games played by A and B is in the ratio 3:2, B and C is in the ratio 4:5, and C and D is in the ratio 2:3. If A and D have played 45 games more than B and C, find the number of games played by A.

(A) 84 (B) 70
(C) 48 (D) 60

Q27 Three friends A, B, and C go to a restaurant. A pays $\frac{3}{10}$ of the bill while the ratio of the amount spent by B and amount spent by A and C is in the ratio 1:4. If A spent 300 rupees less than C, find the total bill(in rupees).

(A) 900 (B) 1200
(C) 1500 (D) 1800

Q28 Pinky stands before Rinky, and there are 19 people between them. If the number of people before and after Rinky in the queue is in the ratio of 5:3, and the number of people before and after Pinky in the queue is in the ratio of 15:17, find the number of people in the queue.

(A) 65 (B) 129
(C) 136 (D) 193

Q29 Three friends A, B, and C distribute 840 rupees among themselves such that 25 less than five-fourths of A, 5 less than three-fourths of B, and 50 more than five-sevenths of C are equal. Find the amount received by B in rupees

(A) 250 (B) 280
(C) 300 (D) 340

Q30 A starts a company by investing 40,000 rupees. After the first quarter, B joins the company and invests 60,000 rupees. Finally, C joins after the second quarter and invests 70,000 rupees. At the end of the year, 28% of the profit directly goes to A as he is the founding member of the company. The rest of it is shared among them on the basis of their investment. If A gets 6,000 rupees of profit more than B and C combined, find the profit share of B(in rupees).

(A) 31,500 (B) 27,000
(C) 40,500 (D) 43,500

Answer Key

Q1	D
Q2	C
Q3	A
Q4	D
Q5	A
Q6	B
Q7	A
Q8	A
Q9	D
Q10	B
Q11	C
Q12	B
Q13	A
Q14	B
Q15	C
Q16	262500
Q17	29500
Q18	85
Q19	B
Q20	A
Q21	B
Q22	D
Q23	C
Q24	A
Q25	C
Q26	D
Q27	C
Q28	B
Q29	D
Q30	C

Hints & Solutions

Note: scan the QR code to watch video solution

Q1 Text Solution:

Let the amount with A, B, and C be 3x, 4x, and 6x.

Given that they have 364 rupees with them,

3x+4x+6x=364

13x=364

x=28

Therefore the amount with B is 4x =4(28)=112.

(OR)

If k units are in the ratio is a:b:c, then the share of a = $\frac{a}{a+b+c}\left(k\right)$

Using this formula, the share of b is

$$\frac{4}{3+4+6}\left(364\right)=\frac{4}{13}\left(364\right)=112$$

Video Solution:

Q2 Text Solution:

The score of Ram and Shyam=3:4 ..(1)

The score of Shyam and Tom= 5:7 ..(2)

We can see that Shyam's score is common in both ratios. This means we need to make Shyam's score the same in both ratios so we can compare Ram, Shyam, and Tom together.

To bring Shyam's score to a common point in both ratios, we need to multiply the ratios by a number that makes Shyam's score the same.

Multiply (1) with 5 and multiply (2) with 4, we get:

The score of Ram and Shyam= 15:20

The score of Shyam and Tom=20:28

Since we have brought Shyam's score to a common point, the ratio of their scores is 15:20:28.

Let the scores be 15x, 20x, and 28x.

15x+20x+28x=1260

63x=1260

x=20

Therefore the score of Tom is 28x =28(20)=560

Video Solution:

Q3 Text Solution:

Let the numbers be 6x and 7x.

Given that the sum of the squares of the numbers is 765,

$$(6x)^2+(7x)^2=765$$

$$36x^2+49x^2=765$$

$$85x^2=765$$

$$x^2=9$$

$$x=\pm 3$$

Since they are natural numbers, they cannot be negative so x=3.

The two numbers are 6x=6(3)=18 and 7x=7(3)=21.

The difference between the numbers=21-18=3.

Video Solution:

Q4 Text Solution:

Let the two numbers be 9x and 20x.

When 8 is added, the numbers become 9x+8 and 20x+8.

Given that these numbers are in the ratio 1:2,

$$\frac{9x+8}{20x+8}=\frac{1}{2}$$

18x+16=20x+8

2x=8

x=4.
Therefore the larger number is 20x=20(4)=80.

Video Solution:

Q5 Text Solution:

Given that the price of a stone is directly proportional to the square of the weight,
price=k$(wieght)^2$, where k is a constant.
Let the total weight of the stone be 9x. After breaking down, the weights of the stone are 2x, 3x, 4x.
Original price=k$(9x)^2$
New price=$k(2x)^2 + k(3x)^2 + k(4x)^2$
The stone's value decreased by 1352 rupees,
New price=Original price-1352

$$k(2x)^2 + k(3x)^2 + k(4x)^2 = k(9x)^2 - 1352$$
$$29kx^2 = 81kx^2 - 1352$$
$$52kx^2 = 1352$$
$$kx^2 = 26$$

Therefore the original price of the stone is

$$81kx^2 = 81(26) = 2,106$$

Video Solution:

Q6 Text Solution:

Let the number of apples and mangoes in the first basket be 4x and 5x.
Let the number of apples and mangoes in the second basket be y and 2y.
If the number of fruits in the second basket is four times that of the first basket,
(y+2y)=4(4x+5x)
3y=4 (9x)
y=12x.
The ratio of apples in the first to second baskets is 4x:y=4x:12x=1:3.

Video Solution:

Q7 Text Solution:

Let us say that all these values are equal to k, i.e

$\frac{a}{6} = \frac{b}{8} = \frac{3c}{4} = \frac{5d}{12} = k$, then
a=6k, b=8k, c=$\frac{4}{3}k$, and d=$\frac{12}{5}k$
a:b:c:d=$6k : 8k : \frac{4}{3}k : \frac{12}{5}k$
Multiply the ratio with 15(LCM of the terms in the denominator), we get:
$6k(15) : 8k(15) : \frac{4}{3}k(15) : \frac{12}{5}(15)$
a:b:c:d=90k:120k:20k:36k

$$\frac{c+5d}{2a+b} = \frac{20k+5(36k)}{2(90)k+120k} = \frac{200k}{300k} = \frac{2}{3}$$

Video Solution:

Q8 Text Solution:

Given that 9a=12b=5c=18d=24e, we need to find the LCM of all the coefficients
LCM(9,12,5,18,24)=360
Let us assume that all the values are equal to 360k

9a=12b=5c=18d=24e=360k
a=40k, b=30k, c=72k, d=20k, e=15k
The two largest numbers are a and c and their sum is 560
72k+40k=560
112k=560
k=5
The two smallest numbers are
20k+15k=35k=35(5)=175

Video Solution:

Q9 Text Solution:

Let the number of men and women in the office be 4x and 3x respectively.
Let the number of skilled men be 2y, then the number of unskilled women is 3y.
Therefore the number of unskilled men=4x-2y and the number of skilled women=3x-3y

	total	skilled	unskilled
men	4x	2y	4x-2y
women	3x	3x-3y	3y

The total number of skilled people=2y+3x-3y=3x-y
Since skilled people make up two-fifth of the total office,

$\frac{3x-y}{7x} = \frac{2}{5}$

15x-5y=14x
x=5y.
The ratio of number of skilled to unskilled women=$\frac{2y}{4x-2y} = \frac{2y}{4(5y)-2y} = \frac{2y}{18y} = \frac{1}{9}$

Video Solution:

Q10 Text Solution:

Let the marks after the revaluation of Shyam, Pam, and Ram be 10x, 5x, and 3x.
Since the score of each person increased by 9 marks, the original scores of Shyam, Pam, and Ram would be 10x-9, 5x-9, and 3x-9.
Given that Ram's score was one-eighth the score of Shyam and Pam,

$3x - 9 = \frac{1}{8}(10x - 9 + 5x - 9)$

$3x - 9 = \frac{1}{8}(15x - 18)$

24x-72=15x-18
9x=54
x=6.
The original score of pam=5(x)-9=5(6)-9=21.

Video Solution:

Q11 Text Solution:

Let the numbers are 8a, 7a and 5a respectively. Then,
8a+ 7a+5a= 900
a = 45
Then, 8a = 8 × 45 = 360
7a = 7 × 45 = 315
5a = 5× 45 = 225
Therefore, new ratio = (360-80): (315+ 35): (225 +35) = 28: 35: 26
Ans. c

Video Solution:

Q12 Text Solution:

Income = Expenditure + saving

Let the monthly income of P and Q be '6a' and '7a' And expenditure be '4b' and '5b' It is given income of P is twice the expenditure of Q

Therefore, 6a = 2 × 5b

$\frac{a}{b} = \frac{5}{3}$, therefore a = 5y and b = 3y

Ratio between the savings of P and Q = $\frac{6a-4b}{7a-5b}$

Therefore,

$\frac{6a-4b}{7a-5b} = \frac{6\times5y-4\times3y}{7\times5y-5\times3y} = \frac{30y-12y}{35y-15y} = \frac{18y}{20y} = \frac{9}{10}$.

Video Solution:

Q13 Text Solution:

Let Money received by Nakul = Rs. x

Let money received by Bhima = Rs. $6a$ and money received by Arjun = Rs. $7a$

According to the question,

$$\frac{6a}{x+7a} = \frac{3}{8}$$
$$\Rightarrow 6a \times \frac{8}{3} = x + 7a$$
$$\Rightarrow 16a = x + 7a$$
$$\Rightarrow 9a = x$$

So, ratio of money received by Nakul to money received by Bhima = $9a : 6a = 3 : 2$

Ans. a

Video Solution:

Q14 Text Solution:

Let the 3 parts into which the number is divided be a, b and c. It is given that

5a = 8b = 6c

Let each value be equal to x.

So, 5a = x => a = $\frac{x}{5}$

8b = x => b = $\frac{x}{8}$

6c = x => c = $\frac{x}{6}$

Hence, a : b : c = $\frac{x}{5} : \frac{x}{8} : \frac{x}{6}$

LCM of 5, 8 and 6 will be 120.

a : b : c = ($\frac{x}{5} : \frac{x}{8} : \frac{x}{6}$) × 120

= 24 : 15 : 20

Hence, a, b and c are in the ratio of 24 : 15 : 20.

Video Solution:

Q15 Text Solution:

Let the amount of Jaggery and Orange peel used be 2x and 5x.

Let the price of orange peels be p,

Price of jaggery = 3p

Total Cost = (2x)(3p) + (5x)(p) = 520 – 80

6xp + 5xp = 11xp = 440

xp = 40

Thus, value of Jaggery = 6xp = 240

Video Solution:

Q16 Text Solution:

Let the initial number of employee be = 18x

And final of employee = 7x

Total initial salary = 18x × 8 = 144x

And total final salary = 7 × 15x = 105x

According to question,

144x – 105x = 97500

39x = 97500

x = 2,500

The current expenditure of company = 105 × 2500 = Rs. 262500.

Video Solution:

Q17 Text Solution:

Let the unit of ratio be x

Karan's salary = 7x

Arjun's salary = 8x

After increment,

$$\frac{(7x + 1500)}{(8x + 1500)} = \frac{52}{59}$$

59(7x + 1500) = 52(8x + 1500)

413x + 88500 = 416x + 78000

x = Rs. 3500

Arjun's new month salary = 8x + 1500 = 8 × 3500 + 1500

Arjun's new month salary = Rs. 29500

The new monthly salary of Arjun is Rs. 29500.

Video Solution:

Q18 Text Solution:

Let the current age of Jitu be x years and of Chinu be y years.

Given, x = 1.8y – 14 ----(1)

30 years ago,

$y - 30 = \frac{2}{5}(x - 30) + 3$ ----(2)

Put value of equation (1) in (2)

y – 30 = 0.4 (1.8y – 44) +3

y = 55 years

On putting this value in equation 1 we get,

x = 1.8 × 55 - 14

x = 85 years

Jitu's present age is 85 years.

Video Solution:

Q19 Text Solution:

Let male population of Timbuktoo be m_1 and male population of Gimbuktoo be m_2.

Let the female population of Timbuktoo be f_1 and female population of Gimbuktoo be f_2.

So, $(m_1 + f_1) : (m_2 + f_2) = 7:9$

$m_1 = f_2$

$f_1 : m_2 = 2:3$

$\Rightarrow 3f_1 = 2m_2$

So $(m_1 + \frac{2}{3}m_2) : (m_2 + m_1) = 7:9$

$9m_1 + 6m_2 = 7m_2 + 7m_1$

$m_1 : m_2 = 1 : 2$

Video Solution:

Q20 Text Solution:

Let the total number of people in the election be 36x.

Since votes of A and B are in the ratio 4:5,
4y+5y=36x
y=4x
Votes for A=16x and votes for B=20x.
The number of males to females who voted were in the ratio 2:1, so
number of males=24x and the number of females=12x
two-thirds of the women voted for B, i.e
$\frac{2}{3}(12x)$=8x
The number of men who voted for B=20x-8x=12x
The number of women who voted for A=12x-8x=4x.
The number of men who voted for A=16x-4x=12x

	A	B
total	16x	20x
males	12x	12x
females	4x	8x

One fourth of the total votes of A were deemed invalid, therefore the valid votes of A=
$\frac{3}{4}(16x) = 12x$
One-sixth of the male votes were deemed invalid for B, therefore total valid votes of B=
$\frac{5}{6}(12x) + 8x = 18x$
B won by a margin of 18,000 votes, so
18x-12x=18,000
6x=18,000
x=3,000
Therefore the number of females who voted for A=4x=4(3,000)=12,000

Video Solution:

Q21 Text Solution:

All age units are in years.

Let son's present age = x
Son's age 5 years ago = x - 5
From the condition, Father's present age must be 5 more than twice the age of son 5 years ago.
Father's present age = 5 + 2(x-5)
10 years from now,
Father's age = 10+5+2(x-5)= 15 + 2(x-5)= 2x + 5
Son's age = x + 10
From condition,
$\frac{x+10}{2x+5} = \frac{8}{13}$
=> 16x+40=13x+130
=>3x=90
=> x=30
Ans. b

Video Solution:

Q22 Text Solution:

Let the number of toys with Tina and Reetu be 3x,8x.
Let Reetu give away k toys to Tina, then
The number of toys with Tina is 3x+k and the number of toys Reetu is 8x-k.
Given that this ratio is 5:6,
$\frac{3x+k}{8x-k} = \frac{5}{6}$
18x+6k=40x-5k
11k=22x
k=2x.
The fraction of toys that Reetu give away=
$\frac{2x}{8x} = \frac{1}{4}$

Video Solution:

Q23 Text Solution:

Let the salaries of A, B, and C be 4x, 5x, 6x.

The new salary of A and old salary of A is in the ratio 3:2,

$\frac{k}{4x} = \frac{3}{2}$

So A's new salary is 6x.

Given that total salary of A, B, and C in the two years is in the ratio 3:4,

Total salary in the previous year=

4x+5x+6x=15x

$\frac{15x}{new\ total} = \frac{3}{4}$

new total=20x

Since, B and C's new salary is equal let it be y

6x+y+y=20x

2y=14x

y=7x

The ratio of salary of C= 6x:y=6x:7x=6:7

Video Solution:

Q24 Text Solution:

Let the number of kids, teens, and adults be 3x, 6x, and 8x respectively.

Let the ticket prices be 4r, 6r, 5r respectively.

We know that revenue=(number of people) (price of each ticket)

Revenue generated by kids= (3x)(4r)=12xr

Revenue generated by teens= (6x)(6r)=36xr

Given that teens have generated 3,600 rupees more than kids:

36xr=12xr+3,600

24xr=3600

xr=150

The total revenue would be

12xr+36xr+40xr=88xr=88(150)=13,200

Video Solution:

Q25 Text Solution:

Let the initial salary of Ram and Shyam be 4x and 5x.

Let the increased salary of Ram and Shyam be 8y and 11y.

Given that Ram's salary increased by 25%, his salary should be:

$\left(1+\frac{25}{100}\right)4x$=1.25(4x)=5x

5x=8y

x=1.6y.

The percentage increase in the salary of Shyam is

$\left(\frac{11y-5x}{5x}\right) \times 100$

$= \frac{11y-5(1.6y)}{5(1.6y)} \times 100$

$= \frac{3y}{8y} \times 100$

=37.5%

Video Solution:

Q26 Text Solution:

The number of games played by A and B=3:2 ..(1)

The number of games played by B and C= 4:5 ...(2)

Since B is the common term in the 2 ratios, we need to equate B, the LCM of 2,4 is 4.
Multiply (1) with 2, we get
The number of games played by A and B=6:4
The number of games played by B and C=4:5
therefore the number of games played by A, B, and C is 6:4:5
The number of games played by A, B, and C=6:4:5 ...(3)
Number of games played by C and D= 2:3 ..(4)
C is the common term so we need to bring C to a common point, LCM of 5 and 2 is 10
Multiplying (3) with 2 and (4) with 5,
The number of games played by A, B, and C=12:8:10
The number of games played by C and D= 10:15
Therefore the number of games played by A, B, C, D, and E is in the ratio 12:8:10:15
Let the scores be 12x, 8x, 10x, and 15x.
Given that A and D have played 45 more games than B and C,
(12x+15x)=(8x+10x)+45
9x=45
x=5
Therefore the number of games played by A is 12x= 12(5)=60.

Video Solution:

Q27 Text Solution:

Let the amount spent by A, B, and C be a,b,c.

A spent $\frac{3}{10}$ of the bill,

$\frac{a}{a+b+c} = \frac{3}{10}$ .....(1)

The ratio of the amount spent by B and the amount spent by A and C is in the ratio 1:4,

$\frac{b}{a+c} = \frac{1}{4}$

4b=a+c ...(2)

put (2) in (1), we get

$\frac{a}{(a+c)+b} = \frac{3}{10}$

$\frac{a}{4b+b} = \frac{3}{10}$

$\frac{a}{b} = \frac{3}{2}$

$b = \frac{2}{3}a$ ...(3)

put (3) in (2), we get

$4\left(\frac{2}{3}\right)a = a + c$

$c = \frac{8}{3}a - a$

$c = \frac{5}{3}a$

Now we know A has spent 300 less than C,

$a = c - 300$

$a = \frac{5}{3}a - 300$

$\frac{2}{3}a = 300$

$a = 450$

The total amount spent=a+b+c

$a + \frac{2}{3}a + \frac{5}{3}a$

$\frac{10}{3}(a) = \frac{10}{3}(450) = 1500$

Video Solution:

Q28 Text Solution:

Let the number of people before and after Rinky be 5x and 3x respectively.

.....(Pinky).....(19 people).....(Rinky).....

_____5x_____ ___3x___

Therefore the number of people in the queue including Rinky would be 3x+5x+1=8x+1

There are 19 people between Pinky and Rinky and 5x people before Rinky.

Therefore the number of people before Pinky would be 5x-(19+1)=5x-20
Number of people after Pinky would be 3x+(19+1)=3x+20
Given that the number of people before and after Pinky in the queue is in the ratio of 15:17,

$\frac{5x-20}{3x+20} = \frac{15}{17}$

85x-340=45x+300
40x=640
x=16.
Therefore the number of people in the queue would be 8x+1 =8(16)+1=129

Video Solution:

Q29 Text Solution:

Let the amount received by A, B, and C be a,b, and c respectively.
Given that 25 less than five-fourths of A, 5 less than three-fourths of B, and 50 more than four-sevenths of C are equal,

$\frac{5}{4}a - 25 = \frac{3}{4}b - 5 = \frac{5}{7}c + 50$

Let all of them be equal to a value k.

$\frac{5}{4}a - 25 = \frac{3}{4}b - 5 = \frac{5}{7}c + 50 = k$

$\frac{5}{4}a = k + 25$

$a = \frac{4}{5}(k + 25)$

Similarly,

$b = \frac{4}{3}(k + 5)$

$c = \frac{7}{5}(k - 50)$

We know that the three of them together received 840 rupees,
a+b+c=840

$\frac{4}{5}(k + 25) + \frac{4}{3}(k + 5) + \frac{7}{5}(k - 50) = 840$

$\frac{12(k+25)+20(k+5)+21(k-50)}{15} = 840$

12k+300+20k+100+21k-1050=12,600
53k-650=12,600
53k=13250
k=250
Therefore the amount recieved by B is

$\frac{4}{3}(k + 5) = \frac{4}{3}(255)$=340

Video Solution:

Q30 Text Solution:

We know that investment=(capital)(time)
The ratio of investment if A, B, and C would be (12)(40,000):(9)(60,000):(6)(70,000)
48:54:42= 8:9:7
Let the total profit be 100p. Since A gets 28% of the profit directly, the part that is left is 100p-28p=72p.
The rest of it is shared in the ratio 8:9:7.
Therefore from the rest, profit of A=

$\frac{8}{8+9+7}(72p) = 24p$

Therefore the profit of B and C would be =72p-24p=48p
total profit of A= 28p+24p=52p
A gets 6,000 more than B and C combined, so:
52p=6,000+48p
4p=6,000
p=1,500
Therefore the profit of B would be

$\frac{9}{8+9+7}(72p) = 27p$

27(1,500)=40,500

Video Solution: