

$$\frac{29x+5}{4x-2} = \frac{25x}{3x}$$

$$87x + 15 = 100x - 50$$

$$65 = 13x$$

$$x = 5$$

$$29 \times 5 = 145$$

23.1; Ratio of incomes A & B are = 5 : 3

Ratio of expenses of A, B & C

$$= 8 : 5 : 2$$

C's expenditure = ₹ 2000

$$\therefore \text{B's expenditure} = \frac{5}{2} \times \text{C's expenditure}$$

$$= \frac{5}{2} \times ₹ 2000 = ₹ 5000$$

B's saving = ₹ 700

B's income = Expenditure + saving

$$= ₹ 5000 + ₹ 700$$

$$= ₹ 5700$$

A's Income = $\frac{5}{3}$ of B's income

$$= \frac{5}{3} \times ₹ 5700 = ₹ 9500$$

A's Expenditure = $\frac{8}{2}$ of C's expenditure

$$= \frac{8}{2} \times ₹ 2000 = ₹ 8000$$

$$\therefore \text{A's savings} = ₹ 9500 - ₹ 8000 \\ = ₹ 1500$$

$$24.3; \text{C (Exp.)} = 2y = 200$$

$$y = 100$$

$$\text{B (Exp.)} = 5y = 5000$$

$$\text{A (Exp.)} = 8y = 8 \times 1000 = 8000$$

Saving of B = $3x - \text{exp.} = 700$

(Increase)

$$3x - 5000 = 700$$

$$3x = 5700$$

$$x = 1900$$

$$\text{A's income} = 3x = 1900 \times 5 \\ = 9500/-$$

$$\text{A's saving} = \text{Inc.} - \text{Exp.} = 9500 - 8000 \\ = 1500/-$$

Paramount concept:-

$$24.3; \text{A : B} = 4 : 5 \quad \times 2$$

$$\text{B : C} = 2 : 3 \quad \times 5$$

$$\text{A : B : C} = 8 : 10 : 15$$

$$\text{A} = 800$$

$$\text{i.e. } 8x = 800$$

$$x = \frac{800}{8} = 100$$

$$\text{C} = 15x, = 1500$$

25.3; Let number of students in three classes be $2x$, $3x$ and $5x$ respectively.

\therefore Original number of students

$$= 2x + 3x + 5x = 10x$$

Now the number of students in each class is increased by 20

$$\text{Then, } \frac{2x+20}{3x+20} = \frac{4}{5}$$

$$\Rightarrow 12x + 80 = 10x + 100$$

$$\Rightarrow 2x = 20 \Rightarrow x = \frac{20}{2} = 10$$

\therefore Required number of students

$$= 10x = 10 \times 10 = 100$$

26.1; Strength of milk in the first

$$\text{mixture} = \frac{12}{12+3} = \frac{12}{15}$$

Strength of milk in the second

$$\text{mixture} = \frac{10}{10+4} = \frac{10}{14}$$

\therefore the ratio of their strengths

$$= \frac{12}{15} : \frac{10}{14} = 12 \times 14 : 15 \times 10$$

$$= 28 : 25$$

27.4; The ratio of shares of group of men, women and boys

$$= 9 \times 4 : 8 \times 5 : 4 \times 6 = 36 : 40 : 24$$

Share of 5 women

$$= \frac{40}{36+40+24} \times 425 = ₹ 170$$

$$\therefore \text{the share of 1 woman} = \frac{170}{5} = ₹ 34$$

28.1; We see that in this case also, man and days are inversely proportional to each other.

Therefore, the required ratio of days

$$\text{is } \frac{1}{3} : \frac{1}{4} : \frac{1}{5}$$

$$= \frac{20}{60} : \frac{15}{60} : \frac{12}{60} = 20 : 15 : 12$$

29.2; Change the ratio into fractions

Water : Milk

Vessel I	$\frac{1}{3}$	$\frac{2}{3}$
-----------------	---------------	---------------

Vessel II	$\frac{2}{7}$	$\frac{5}{7}$
------------------	---------------	---------------

From Vessel I, $\frac{1}{5}$ is taken and from

Vessel II, $\frac{4}{5}$ is taken.

Therefore, the ratio of water to milk in the new vessel

$$= \left(\frac{1}{3} \times \frac{1}{5} + \frac{2}{7} \times \frac{4}{5} \right) : \left(\frac{2}{3} \times \frac{1}{5} + \frac{5}{7} \times \frac{4}{5} \right)$$

$$= \left(\frac{1}{15} + \frac{8}{35} \right) : \left(\frac{2}{15} + \frac{20}{35} \right)$$

$$= \frac{31}{105} : \frac{74}{105} = 31 : 74$$

30.3; Individual Salary

Last year : Present year

Laxman

2	:	3
---	---	---

One year ago Present year

$$\frac{1}{2} \times 100 = 50\% \text{ Increase}$$

Gopal

4	:	5
---	---	---

One year ago Present year

$$\frac{1}{4} \times 100 = 25\% \text{ Increase}$$

One year ago \rightarrow L : G

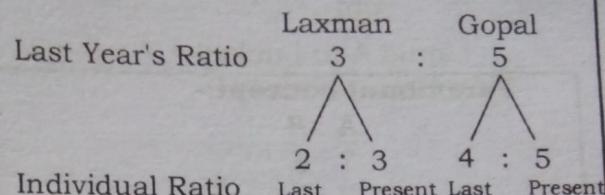
$$3 : 5$$

$$\downarrow 50\% : \downarrow 25\%$$

$$3+1.5 : 5+1.25$$

$$\text{Present Salary } 18:25 \rightarrow \frac{4300}{43} = 100$$

Paramount concept:-



$$\text{Present } 3 \times \frac{3}{2} : 5 \times \frac{5}{4}$$

$$\Rightarrow 18 : 25$$

\therefore Present salary of Lakshman

$$= \frac{4300}{18+25} \times 18 = 1800$$

31.1; Let the bucket contains liquid A and liquid B, $7x$ litres and $5x$ litres respectively.

After, taking 9 litres of mixture, the quantity of liquid

$$\text{A in the bucket} = 7x - 9 \times \frac{7}{12}$$

$$= 7x - \frac{63}{5}$$

and liquid B in the bucket, after replacing 9 litres mixture by 9 litres of liquid B.

$$= 12x - \left(7x - \frac{63}{12} \right) = 5x + \frac{63}{12}$$

According to question

32.2; Paramount concept:-

$$\begin{aligned} \frac{7x - \frac{63}{12}}{5x + \frac{63}{12}} &= \frac{7}{9} \\ \Rightarrow \frac{12 \times 7x - 63}{12 \times 5x + 63} &= \frac{7}{9} \\ \Rightarrow (84x - 63) \times 9 &= (60x + 63) \times 7 \\ \Rightarrow 84x \times 9 - 60x \times 7 &= 63 \times 7 + 63 \times 9 \\ \Rightarrow 336x &= 63 \times 16 \\ x &= \frac{63 \times 16}{336} = 3 \end{aligned}$$

∴ Liquid A in bucket = $7 \times 3 = 21$

Paramount concept:-

A : B

7 : 5

7 : 9

4 unit = 9 litre

1 unit = $\frac{9}{4}$ litre

$$\begin{aligned} \text{initial mixture} &= 12 \times \frac{9}{4} + 9 \\ &= 3 \times 9 + 9 = 27 \\ &= 27 + 9 = 36 \end{aligned}$$

$$\begin{aligned} \text{Liquid A} &= \frac{7}{12} \times 36 \text{ litre} \\ &= 7 \times 3 \text{ litre} = 21 \text{ litre} \end{aligned}$$

32.2; Suppose the vessel contains $5x$ litres and $3x$ litres of liquids A and B respectively.

The removed quantity contains

$$\frac{5}{5+3} \times 16 = 10 \text{ litres of A and } 16 - 10$$

= 6 litres of B. Now,

$$(5x - 10) : (3x - 6 + 16) = 3 : 5$$

$$\text{or, } \frac{5x - 10}{3x + 10} = \frac{3}{5} \text{ or, } 25x - 50 = 9x + 30$$

$$\text{or, } 16x = 80$$

$$\therefore x = 5$$

$$\therefore \text{The vessel contains } 7x = 8 \times 5 = 40 \text{ litres}$$

A : B

15 : 9

15 : 25

16 unit = 16 litre

1 unit = 1 litre

After removal = $24 \times 1 = 24$ litre

Before removal = $24 + 16 = 40$ litre

33. 4; Let the shares of A, B and C be $3x$, $3x$ and $5x$ respectively.

According to the question,

$$3x + 3x + 5x = 22000$$

$$11x = 22000$$

$$\therefore x = 2000$$

$$\begin{aligned} \therefore \text{Total share of A and C} &= 3x + 5x \\ &= 8x = 8 \times 2000 = ₹ 16000 \end{aligned}$$

34. 3; Let the quantity of vessels A and B are taken in the ratio of $x : y$ to form a mixture in which milk to water is in the ratio 5 : 4.

In x litre of liquid from vessel A,

milk is $\frac{4}{9}x$ and water is $\frac{5}{9}x$.

In y litre of liquid from vessel B,

the quantity of milk = $\frac{5}{6}y$ and

water = $\frac{1}{6}y$.

According to question

$$\frac{\frac{4}{9}x + \frac{5}{6}y}{\frac{5}{9}x + \frac{1}{6}y} = \frac{5}{4}$$

$$\Rightarrow \frac{8x + 15y}{10x + 3y} = \frac{5}{4}$$

$$\Rightarrow (8x + 15y) \times 4 = (10x + 3y) \times 5$$

$$\Rightarrow 32x + 60y = 50x + 15y$$

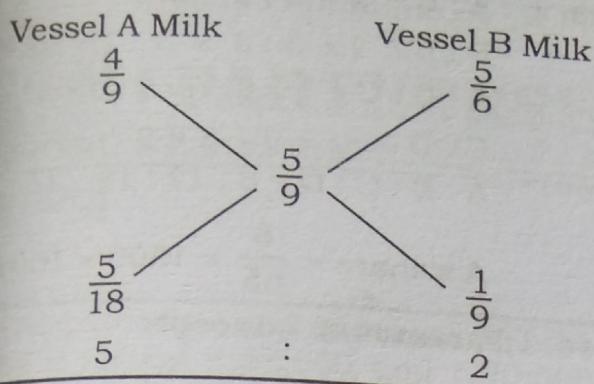
$$\Rightarrow (60 - 15)y = (50 - 32)x$$

$$\Rightarrow 45y = 18x$$

$$\Rightarrow 5y = 2x$$

$$\Rightarrow x : y = 5 : 2$$

34.3; Paramount concept:-



35.1; Let the number of coins of one rupee, 50 paise and 25 paise be $5x$, $6x$ and $8x$ respectively, As per question,

$$\therefore 5x \times 1 + 6x \times \frac{1}{2} + 8x \times \frac{1}{4} = 210$$

$$\Rightarrow x(5 + 3 + 2) = 210$$

$$\therefore x = 21$$

$$\therefore \text{Number of coins of one rupee} = 5 \times 21 = 105$$

$$\text{Number of coins of 50 paise} = 6 \times 21 = 126$$

$$\text{Number of coins of 25 paise} = 8 \times 21 = 168$$

36.1; Let the coins be in ratio

$$4x : 5x : 6x$$

We know that

$$1 \text{ coin of 1 rupee} = 1 \text{ Rupee}$$

$$2 \text{ coins of 50 paise} = 1 \text{ Rupee}$$

$$4 \text{ coins of 25 paise} = 1 \text{ Rupee}$$

$$\therefore \frac{4x}{1} + \frac{5x}{2} + \frac{6x}{4} = 32/-$$

$$\frac{16x + 10x + 6x}{4} = 32$$

$$\frac{32x}{4} = 32$$

$$x = 4$$

$$4x = 4 \times 4 = 16$$

$$5x = 5 \times 4 = 20$$

$$6x = 6 \times 4 = 24$$

37.1; The total sum after deduction
 $= 3115 - (25 + 28 + 52) = ₹ 3010$
 Their diminished share in the ratio
 $8 : 15 : 20$

$$\therefore \text{A's diminished share} = \frac{8}{43} \times 3010$$

$$= 8 \times 70 = ₹ 560$$

$$\text{B's diminished share} = \frac{15}{43} \times 3010$$

$$= 15 \times 70 = ₹ 1050$$

$$\text{C's diminished share} = \frac{20}{43} \times 3010$$

$$= 20 \times 70$$

$$= ₹ 1400$$

$$\therefore \text{A's share} = 560 + 25 = ₹ 585$$

$$\text{B's share} = 1050 + 28 = ₹ 1078$$

$$\text{C's share} = 1400 + 52 = ₹ 1452$$

38.2; Let the no. added be 'a'
 According to question

$$\frac{3+a}{4+a} = \frac{4}{5}$$

$$15 + 5a = 16 + 4a$$

$$a = 1$$

Paramount concept:-

$$3 : 4$$

$$4 : 5$$

$$\therefore \text{The number} = \frac{4 \times 4 - 3 \times 5}{5 - 4} = \frac{1}{1} = 1$$

39.3; Let the no. subtracted be 'a'
 According to question

$$\frac{19-a}{23-a} = \frac{3}{4}$$

$$76 - 4a = 69 - 3a$$

$$a = 7$$

Paramount concept:-

$$19 : 23$$

$$3 : 4$$

$$\therefore \text{The number} = \frac{19 \times 4 - 23 \times 3}{4 - 3} = \frac{7}{1} = 7$$

40. 3; $9 : 8$
 $14 : 15$

∴ We know that the total bill = wage per person \times no. of total employees. Therefore, the ratio of change in bill.

The ratio shows that there is a decrease in the bill $= 9 \times 14 : 8 \times 15 = 126 : 120$
 $= 21 : 20$

The ratio shows that there is a decrease in the bill.

41. 4; Let the earnings of A and B be $8x$ & ₹ $9x$ respectively.
Now, after changes in their earnings,

$$\text{A's earning} = \frac{150}{100} \times 8x = ₹ 12x$$

$$\text{B's earning} = \frac{75}{100} \times 9x = ₹ \frac{27x}{4}$$

Clearly, we need sum of their earnings etc. to get the desired result.

42. 4; Let the quantities of milk and water in the original mixture be $4x$ litres and $3x$ litres respectively.

$$\therefore \frac{4x}{3x+6} = \frac{8}{7}$$

$$\Rightarrow 28x = 24x + 48$$

$$\Rightarrow 28x - 24x = 48$$

$$\Rightarrow 4x = 48$$

∴ Amt. of milk = 48 litres.

43. 2; $A : B = 2 \times 2 : 3 \times 2$

$B : C = 2 \times 3 : 3 \times 3$

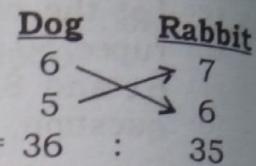
$A : B : C = 4 \times 2 : 6 \times 2 : 9 \times 2$

$C : D = 2 \times 9 : 3 \times 9$

$A : B : C : D = 8 : 12 : 18 : 27$

A 's share $= \frac{8}{65} \times 1300 = 160/-$

44. 1; Paramount concept:



Ratio of their speed is $= 36 : 35$

45. 1; $\frac{6-x}{7-x} < \frac{16}{21}$

If x is 3 then $= .75$

$$\frac{16}{21} = .76$$

$$.75 < .76$$

hence the smallest number is 3.

46. 2; Ratio $= \frac{11x}{12x}$

$$11x \times 12x = 4752$$

$$x^2 = \frac{4752}{11 \times 12} = 36$$

$$x = \sqrt{36} = 6$$

$$\text{Smaller no: } = 11x = 11 \times 6 = 66$$

- end of 12 months, in what ratio will the profit be divided?
- (1) 60 : 51 : 34 (2) 70 : 61 : 44
 (3) 80 : 61 : 54 (4) 80 : 81 : 84
 (5) None of these
32. A, B and C start a business by investing ₹ 20,000 each. After 5 months A withdraws ₹ 5,000, B withdraws ₹ 4,000 and C invests ₹ 6,000 more. If at the end of year the profit was ₹ 69,900 then what will be B's share?
- (1) ₹ 20,500 (2) ₹ 21,200
 (3) ₹ 28,200 (4) ₹ 19,621
 (5) None of these
33. A, B and C start a business. Twice the capital of A is equal to thrice the capital of B and B's capital is four times C's capital. What will be B's share if the profit earned is ₹ 2,97,000/-.
- (1) ₹ 1,07,000 (2) ₹ 1,08,000
 (3) ₹ 1,10,300 (4) ₹ 1,15,000
 (5) None of these
34. A, B and C are partner in a business. If A's Capital is twice of B's capital and B's capital is three times to that of C's capital then find the ratio of their investment.
- (1) 6 : 3 : 1 (2) 3 : 8 : 1
 (3) 4 : 9 : 3 (4) 3 : 1 : 5
 (5) None of these
35. A, B and C start a business with a sum of ₹ 50,000. A invests ₹ 4,000 more than B and B invests ₹ 5,000 more than C. What will be A's share if total profit is ₹ 35,000?
- (1) ₹ 36,000 (2) ₹ 35,000
 (3) ₹ 35,490 (4) ₹ 36,500
 (5) None of these
36. A, B and C start a partnership. A invests certain sum, B invests the double amount after 6 months and C invests three times the amount after 8 months. What will be C's share if the profit is ₹ 27,000 at the end of the year?
- (1) ₹ 9,000 (2) ₹ 9,002
 (3) ₹ 9,287 (4) ₹ 9,820
 (5) None of these
37. A and C invest capital in the ratio of 2 : 1 while A and B invest capital in the ratio of 3 : 2. If their annual profit is ₹ 1,57,300 then what is B's share?
- (1) ₹ 48,400 (2) ₹ 58,809
 (3) ₹ 48,810 (4) ₹ 47,782
 (5) None of these
38. A, B and C enter into partnership. A advances one-fourth of the capital for one-fourth of the time. B contributes one-fifth of the capital for half of the time. C contributes the remaining capital for the whole time. How should they divided a profit of ₹ 1140?
- (1) ₹ 100, ₹ 160, ₹ 880
 (2) ₹ 110, ₹ 140, ₹ 860
 (3) ₹ 120, ₹ 150, ₹ 840
 (4) ₹ 140, ₹ 170, ₹ 830
 (5) None of these
39. A, B and C are partners in a business. A, whose money has been used for $\frac{1}{8}$ months, claims $\frac{1}{8}$ of the profit, B whose money has been used for 6 months, claims $\frac{1}{3}$ of the profit. C had invested ₹ 1560 for 8 months. How much money did A and B contribute?
- (1) ₹ 740, ₹ 1250 (2) ₹ 730, ₹ 1240
 (3) ₹ 720, ₹ 1280 (4) ₹ 750, ₹ 1260
 (5) None of these
40. In a partnership A invests $\frac{1}{6}$ th of the capital for $\frac{1}{6}$ th of the time, B invests $\frac{1}{3}$ rd capital for $\frac{1}{3}$ rd time and C invests the remaining capital for the whole time. If at the end of the year, the profit earned is 23,000 then what will be B's share?
- (1) ₹ 5500 (2) ₹ 5000
 (3) ₹ 6000 (4) ₹ 4500
 (5) None of these

ANSWER

1.1; Ratio of profit/loss = Capital × time
 $A : B = 50,000 : 40,000$
 $5 : 4$

Shortcut:-

1.1; Profit earned = Amount invested × Time

A	:	B
50,000	:	40,000
5	:	4

$$2.3; A : B = 25,000 \times 12 : 20,000 \times 8 \\ = 300000 : 160000 \\ = 30 : 16 \\ = 15 : 8$$

2.3; Shortcut:-

A	:	B
Amount × time		Amount × time
5×12	:	4×8 (since $25,000 : 20,000$)
↓		↓ is $5 : 4$)
15	:	8

$$3.1; A : B = 21000 \times 12 : 36000 \times x \\ \text{Ratio} = 1 : 1 \text{ (as profit is equal)} \\ 21000 \times 12 = 36000 \times x \\ x = 7 \text{ Months} \\ \therefore B \text{ joins after 5 months}$$

3.1; Paramount concept:-

A	:	B
Amount is	7	12
Time must be	12	7
so that ratio remains	1	1
B joined after	$12 - 7 = 5$	months

4.2; Ratio of investment

$$= 185000 : 225000 \\ = 37 : 45 \\ \text{Sum of the ratios} = (37 + 45) = 82 \\ \text{If } 45x = 9000 \text{ then } 82x \\ = \frac{82x \times 9000}{45x} = ₹ 16400/-$$

4.2; Paramount concept:-

Shrikant : Vividh

$$185 : 225$$

or 37 : 45 → 9000 (If 45 is equal to 9000 then it means 45 is multiplied by 200)

then $37 + 45$ i.e. 82 is also multiplied by 200 which is equal to ₹ 16400

5.4; Let the total profit earned be ₹ x

$$\text{Ratio of investment} = \frac{35000}{56000} = \frac{5}{8}$$

$$\text{Sum of ratio} = 5 + 8 = 13$$

$$\text{Profit of Beena} = \frac{5}{13}x = 45000$$

$$\therefore x = \frac{45000 \times 13}{5} = ₹ 1,17,000$$

5.4; Paramount concept:-

Beena **Meena**

Amount	5	8
	↓ × 9000	
	45000	∴ Total = 13×9000 = 1,17,000

(5 when multiplied by 9000 becomes 45000 then $5 + 8$ i.e. 13 is also multiplied by 9000)

6.4; The ratio of Rashika's and Nikita's investment = $40000 : 75000$
= $8 : 15$

Rashika's share

$$= \frac{8}{23} \times 46,000 = 8 \times 2,000 = 16,000$$

6.4; Paramount concept:-

Rashika **Nikita**

8	15	$(8 + 15) \text{ i.e. } 23$
↓ × 2000		gives →
	46000 (23×2000)	

16,000	then 8 gives → 16000	(8×2000)
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$$7.5; \text{ Ratio} = 25000 \times 24 : 30000 \times 12 \\ = 25 \times 24 : 30 \times 12 = 600 : 360 \\ = 15 : 9 = 5 : 3$$

Sum of ratios = $5 + 3 = 8$

$$\therefore \text{Jitendra's share} = \frac{3}{8} \times 46000 \\ = ₹ 17,250$$

Paramount concept:-

7.5;	Avinash	Jitendra
Amount	5	6
Time	2	1
	<u>10</u>	<u>6</u>
	:	

$$\text{Share of Jitendra} = \frac{6}{16} \times 46000 \\ = ₹ 17250$$

$$8.2; \text{ Investments of Ramesh,} \\ = ₹ 40,000 + ₹ 50,000 + ₹ 60,000 + \\ ₹ 70,000 \text{ as ₹ 10,000 is added every} \\ \text{year)} \\ = ₹ 2,20,000/-$$

Investment of Suresh

$$= 85000 \times 2 = ₹ 1,70,000$$

Ratio of investments

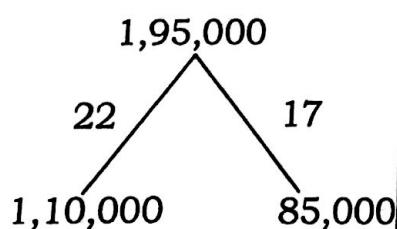
$$₹ 2,20,000 : ₹ 1,70,000$$

$$22 : 17$$

$$\text{Ramesh's Share} = \frac{22}{39} \times 1,95,000 \\ = ₹ 1,10,000/-$$

Paramount concept:-

	Ramesh	Suresh	
8.	1st yr.	40	0
	2nd yr.	50	0
	3rd yr.	60	85
	4th yr.	70	85
	<u>220</u>	<u>170</u>	<u>= 22 : 17</u>



9.3; $7 \times 8 : 9 \times y$
(y is the number of months for which
B invests)

$$= \frac{7 \times 8}{9 \times y} = \frac{8}{9}$$

$$= \frac{56}{9y} = \frac{8}{9} \Rightarrow \frac{7}{y} = \frac{1}{1}$$

$$y = 7 \text{ months}$$

Paramount concept:-

	A	:	B
Amount	7	:	9
Time	x	:	y
Profit	8	:	9
$\frac{7x}{9y} = \frac{8}{9}$	$\Rightarrow \frac{x}{y} = \frac{8 \text{ months}}{7 \text{ months}}$		

$$10.4; 5x \times 8 : 6x \times y$$

$$\frac{5x \times 8}{6x \times y} = \frac{5}{9}$$

$$\frac{8}{2y} = \frac{1}{3}$$

$$y = 12 \text{ months}$$

Paramount concept:-

	A	:	B
Capital	5	:	6
Time	8	:	y
			$\downarrow (6 \times y \text{ must also be divided by 8 to give the result 9})$
Profit \rightarrow	5	:	9
$\frac{6 \times y}{8} = 9$, $y = 12 \text{ months}$			

11.2; Suppose B joined the business for x months

Then using the formula, we have

$$\frac{450 \times 12}{300 \times x} = \frac{2}{1}$$

$$\text{or, } x \times 300 = 450 \times 6$$

$$\therefore x = \frac{450 \times 6}{300} = 9 \text{ months}$$

Therefore, B joined after $(12 - 9) = 3 \text{ months}$.

11.2; Paramount concept:-

	A	:	B
Amount	3	:	2
Time	12	:	x
Profit	2	:	1

(Since $3 \times 12 = 36$
then $2 \times x$ must be
18 to keep the
ratio of profit 2 : 1)

$$\therefore x = \frac{18}{2} = 9 \text{ months.}$$

Hence B joined after 3 months

12.3; Suppose B put in x cows. The ratio of A's and B's rents

$$= \frac{100 \times 8}{x \times 2} = \frac{1}{3/2}$$

$$\text{Then, } \frac{100 \times 8}{x \times 2} = \frac{2}{3}$$

$$\text{or, } x = \frac{100 \times 8 \times 3}{2 \times 2} = 600 \text{ cows}$$

Paramount concept:-

	A	:	B
cows	100	:	600
Time	8	:	2
Rent	2 (800)	:	3 (1200)

$$8 \times 100 = 800$$

Hence $2 \times x$ must be 1200 so that the ratio remains

$$1 : 1\frac{1}{2} \text{ i.e. } 1 : \frac{3}{2} \Rightarrow 2 : 3. x \text{ thus comes out to be 600.}$$

$$13. 1 \quad \frac{90 \times 7}{x \times 3} = \frac{2}{1} \Rightarrow x \frac{90 \times 7}{2 \times 3} = 105$$

14.5; A : B : C

$$6 : 10 : 12$$

$$3 : 5 : 6 = 14$$

$$14 \times x = 350 / = (\text{Total fare})$$

$$x = \frac{350}{14} = 25$$

$$C \text{ pays} = 6 \times 25 = 150$$

14.5; Paramount concept:-

$$C \text{ pays} = \frac{12}{6+10+12} \times 350 = \frac{12}{28} \times 350 \\ = ₹ 150$$

15.1;

	A	:	B	:	C	:	D
Cows	18		25		28		21
Months	4		2		5		3
	72		50		140		63

$$72 + 50 + 140 + 63 = 325$$

$$\text{If } 72x = 360/-$$

then $325x$ is the rent of the pasture

$$\text{i.e. } \frac{325x \times 360}{72x} = ₹ 1625/-$$

15.1; Paramount concept:-

	A	:	B	:	C	:	D
No. of cows	18		25		28		21
Month	4		2		5		3
	72		50		140		63

$$\downarrow \times 5 \qquad \qquad \qquad \downarrow \times 5$$

$$360 \qquad \qquad \qquad ₹ 1625/-$$

∴ Total rent = $325 \times 5 = ₹ 1625$ (A pays 360/- which is 72×5)

Hence the total rent is $325 \times 5 = ₹ 1625/-$

16.2; The ratio of profit = 125,000 : 85,000
= 25 : 17

∴ 60% is divided equally. So the difference between 40% of their profit is 300/-

$$\text{i.e. } \frac{40}{100} \times 25x - \frac{40}{100} \times 17x = 300$$

$$10x - 6.8x = 300$$

$$3.2x = 300$$

$$x = 93.75$$

$$\begin{aligned} \text{Total profit} &= 25x + 17x = 42x \\ &= 42 \times 93.75 \\ &= ₹ 3937.50 \end{aligned}$$