Partnership

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> **Problem 1**

A and B entered into a partnership investing 16,000 taka and 12,000 taka respectively. After 3 months, A withdraw 5000 taka while B invested 5000 taka more. After 3 more months, C joins the business with a capital of 21,000 taka. The share of B exceeds that of C, out of a total profit 26,400 taka after one year by what ??????

A's total investment = 16000*3+11000*9 = 48000+99000 = 147000 taka

B's total investment = 12000*3+17000*9 = 36000+153000 = 189000 taka

C's total investment = 21000*6 = 126000 taka

A : B : C = 147000 : 189000 : 126000 = 147 : 189 : 126 = 49 : 63 : 42 = 7 : 9 : 6

Total = 7 + 9 + 6 = 22

B's share in profit = 26400 * $\frac{9}{22}$ = 1200*9 = 10800 taka

C's share in profit = 26400 * $\frac{6}{22}$ = 1200*6 = 7200 taka

Difference in share of profit = 10800 – 7200 = 3600 taka

Answer : 3600 taka

> **Problem 2**

At the beginning of a partnership business, the capital of B was $\frac{3}{2}$ times of A. After 8 months B withdrew $\frac{1}{2}$ of his capital and 10 months A withdrew

$\frac{1}{4}$ th of his capital. At the end of the year. If the profit incurred is 53,000 taka. Find the amount received by A ????

Let, A's investment in the business = x taka

B's investment in the business = $\frac{3x}{2}$ taka

A's total investment = x*10 + (x-$\frac{x}{4}$)*2 = 10x + $\frac{3x}{2}$ taka

B's total investment = $\frac{3x}{2}$*8 + ($\frac{3x}{2}$-$\frac{1}{2}$ * $\frac{3x}{2}$)*4 = 12x + 3x = 15x taka

A : B = (10x + $\frac{3x}{2}$) : 15x = 23x : 30x = 23 : 30   Total = 23 + 30 = 53

A's share in profit = 53000* $\frac{23}{53}$ = 1000* 23 = 23000 taka

Answer : 23000 taka

  ➢ **Problem 3**

In a business A and C invested amounts in the ratio 2 : 1 whereas A and B invested amounts in the 3 : 2. If their annual profit be 157300 taka, then what is the profit share of B ????

Given, A : B = 3 : 2 = 3*2 : 2*2 = 6 : 4

And   A : C = 2 : 1 = 2*3 : 1*3 = 6 : 3

A : B : C = 6 : 4 : 3   Total=6 + 4 + 3 = 13

B's share in profit = 157300* $\frac{4}{13}$ = 12100*4 = 48400 taka

Answer : 48400 taka

  ➢ **Problem 4**

P , Q and R invested 45k taka, 70k taka and 90k taka respectively to start a business. At the end of two years, they earned a profit of 164k taka . What will be the Q's share in the profit ?

P : Q : R = 45k : 70k : 90k = 9 : 14 : 18   Total= 9 + 14 + 18 = 41

Given, total profit = 164k taka

Q's share in profit = 164k * $\frac{14}{41}$ = 4k * 14 = 56k taka

Answer : 56k taka

> ➢ **Problem 5**

A, B and C are partners of a company. During a particular year A received one - third of the profit, B received one – fourth of the profit and C received the remaining 5000 taka. How much did A receive ??

Let, Total profit be x taka

A's share of profit = $\frac{x}{3}$ taka

B's share in profit = $\frac{x}{4}$ taka

C's share in profit = x - $\frac{x}{3}$ - $\frac{x}{4}$ = $\frac{5x}{12}$ taka

According to the question,

$\frac{5x}{12}$ = 5000

So, x = $\frac{5000*12}{5}$ = 1000 * 12 = 12000 taka

A' s share in profit = $\frac{12000}{3}$ = 4000 taka

Answer : 4000 taka

> ➢ **Problem 6**

If a sum money is to be divided among A , B, C such that A's share is equal to twice B's share and B's share is 4 times C's of share. Then their shares in the ratio of what ????

Let, C's amount of money = x taka

B's amount of money = 4x taka

A's share of money = 2 * 4x = 8x taka

A : B : C = 8x : 4x : x = 8 : 4 : 1

Answer : 8 : 4 : 1

> ➢ **Problem 7**

Abhishek started a business investing 50,000 taka. After one year he invested another 30,000 taka and Sudhir also joined him with a capital of 70,000 taka. If the profit earned in three years from the staring of business was 87,500 taka. Then find the share of Sudhir in the profit ????

Abhishek's total investment= 50000*12 + 80000*24= 60000+1920000=1980000

Sudhir's total investment = 70000*24 = 1680000

Abhishek : Sudhir = 1980000 : 1680000 = 198 : 168 = 3 : 2

Sudhir's share in profit = 87500 * $\frac{2}{5}$ = 17500*2 = 35000 taka

Answer: 35000 taka

> ➢ **Problem 8**

A and B are partners in a business. They invest in the ratio of 5 : 6 ; at the end of 8 months A withdraws. If they receive profits in the ratio of 5 : 9, Then find how long B's investment was used ?????

Let, B invested 6x taka for y months

A's total investment = 5x * 8

B's total investment = 6x * y

According to the question,

(5x * 8) : (6x * y) = 5 : 9

So, 40 : 6y = 5 : 9

So, x = $\frac{40*9}{5*6}$ = 12 months

Therefore, B invested his capital for 12 months.

Answer : 12 months

➢ **Problem 9**

Murli and Monohar start a business together investing 40,000 taka and 50,000 respectively. Joshi joins them after a certain number of months investing 60,000 taka in the venture. Everything goes well till Monohar decides to quit before the exactly same number of months as Joshi's joined the business after. If at the end of the year, they share their profits in the ratio of 16 : 15 : 18, then the number of months given in the preference is what ????

Let, the required number of month is x

Manohar and Joshi invested for (12-x) months.

Murli's total investment = 40000*12 = 480000

Manohar's total investment = 50000*(12-x)

Joshi's total investment = 60000*(12-x)

According to the question,

480000 : 50000*(12-x) : 60000*(12-x) = 16 : 15 : 18

So, 48 : 5*(12-x) : 6*(12-x) = 16 : 15 : 18

So, $\frac{48}{5*(12-x)} = \frac{16}{15}$

So, $\frac{3}{(12-x)} = \frac{1}{3}$

So, 12 – x = 9

So, x = 12 – 9 = 3 months

Therefore, The number of months of preference is 3 months.

Answer : 3 months.

➢ **Problem 10**

Ayush and Anshu decided to start a business and they invested 5500 taka and 6250 taka respectively. After 10 months the differences between their profits is 540 taka. Find the total profit ???

Aush's total investment = 5500*10 = 55000

Anshu's total investment = 6250*10 = 62500

Ayush : Anshu = 55000 : 62500 = 550 : 625 = 22 : 25   Total = 22 + 25 = 47

Let, Total profit be x taka

Ayush's share in profit = x * $\frac{22}{47}$

Anshu's share in profit = x * $\frac{25}{47}$

According to the question,

(x * $\frac{25}{47}$) - (x * $\frac{22}{47}$) = 540

So, x* $\frac{3}{47}$ =540

So, x = $\frac{540*47}{3}$ = 180 * 47 = 8460

Therefore, Total profit is 8460 taka

Answer : 8460 taka.