PARTNERSHIP

When two or more people invest their money in a business, persons are called Partners, their relationship is Partnership and money is Capital. If they invest money for the same time, it is called simple partnership. If they invest money for different times, it is called compound partnership. This topic is basically based on ratio and percentage.

IMPORTANT FORMULA TERMS

1. Partnership: When two or more than two persons run a business jointly, they are called partners and the deal is known as partnership.

2. Ratio of Divisions of Gains:

I. When investments of all the partners are for the same time, the gain or loss is distributed among the partners in the ratio of their investments.

Suppose A and B invest Rs. x and Rs. y respectively for a year in a business, then at the end of the year

(A's share of profit): (B's share of profit) = x: y.

II. When investments are for different time periods, then equivalent capitals are calculated for a unit of time by taking (capital x number of units of time). Now gain or loss is divided in the ratio of these capitals.

Suppose A invests Rs. x for p months and B invests Rs. y for q months then,

(A's share of profit): (B's share of profit) = xp: yq.

III. Working and Sleeping Partners: A partner who manages the business is known as a working partner and the one who simply invests the money is a sleeping partner.

Kind of partners:

There are two kinds of partners.

1. Working or active partner: When a partner devotes his time for the business in addition to investing his money, he is called a working partner. With mutual agreement, the active partners get some fixed percentage of profit as working allowance.

2. Sleeping or non - active partner A partner who simply invests money, but doesn't not attend to the business is called a sleeping partner.

Kinds of Partnership:

1. Simple partnership If the capitals of several partners are invested for the same period. It is called a simple partnership.

2. Compound or complex partnership: If the capitals of the partners are invested for different intervals of time, the partnership is called compound or complex

Key notes: If the capitals of two partners are invested for the same duration of period and let A 1 and A 2 be their investments and total profit is Rs. P, then share of the partners in the profits are:

$\frac{A_1 \times p}{A_1+A_2}$ and Rs. $\frac{A_1 \times p}{A_1+A_2}$

If the capitals of two partners be Rs. A 1 and A 2 for the periods t 1 and t 2 respectively and the profit be Rs. P, then shares of the partners in the profit are Rs. $\frac{A_1 \times t_1 \times P}{A_1 t_1+A_2 t_2}$ and Rs. $\frac{A_1 t_1 \times P}{A_1 t_1+A_2 t_2}$

Solved Examples

Q1. The investment of Raghwendra is twice as that of Bhanu and thrice as that of Chitra. Bhanu invested for twice the months than Raghwendra and thrice the months than Chitra. Who will earn the highest profit?

(A) Bhanu

(B) Chitra

(C) Raghwendra

(D) Both Raghu and Bhanu

Solution-(D) Investment ratio = 6: 3 :2

Month ratio = 3: 6: 2

Then, ratio between their shares = 6 × 3: 6 × 3: 2 × 2

= 18: 18: 4 = 9: 9: 2

Both A and B get equal and highest profits.

Q2. B, Q and R start a business and their investments are in the ratio 4: 3: 6. Both B and Q start the business and R joins them after 6 months. It was decided that R will get a monthly salary of Rs.3600 from the annual profits. R's total salary came out to be 10% of the annual profit after a year. What is the share of Q in the total profits?

(A) Rs.51000

(B) Rs.58320

(C) Rs.57900

(D) Rs.60600

Solution-(B) R's monthly salary Rs.3600. Then annual salary = 3600 × 6 = 21600

(Because he works for 6 months only)

Rs.21600 is 10% of total profit.

Then total profit is Rs.216000.

Ratio of their shares = 4 × 12: 3 × 12: 6 × 6 = 4 :3 : 3

Profit left after reducing salary of R = 216,000 – 21,600 = 19,4400

Q's share = 3/10 × 194400 = Rs.58320.

Q3. Gman and Betu started a business by investing Rs. 36,000 and Rs. 63,000. Find the share of each, out of the annual profit of Rs. 5500.

(A) Rs. 2000, Rs. 3500

(B) Rs. 2500, Rs. 3500

(C) Rs. 3500, Rs. 2500

(D) None of these

Solution-(A)

Gman : Betu = 36000 : 63000

Gman : Betu = 4 : 7

Gman = 5500 × 4/11 = 2000

Betu = 3500

Q4. A starts some business with Rs. 50,000. After 3 months S joins him with Rs. 70,000. At the end of the year, in what ratio should they share the profit?

(A) 1: 3

(B) 3: 2

(C) 1: 5

(D) None of these

Solution-(D)

A: S = 50,000 × 12: 70,000 × 9

= 60: 63 = 20: 21

Q5. A, B and C started a business where their initial capital was in the ratio of 4:5:6. At the end of 8 months, A changed his investment such that his capital became half to C's initial capital investment. If the annual profit of B is Rs. 15000 then what is the total profit ?

(A) Rs44000

(B) Rs36000

(C) Rs40000

(D) Rs39000

Solution-(A)

Initial Ratio = 4: 5 :6

Now Ratio of their shares = 4 × 8 + 3 × 4 :5 × 12: 6 × 12

= 44 :5 × 12: 6 × 12 = 11: 15: 18

B's share is = Rs.15000

i.e.,15 ratio = 15000

(11 + 15 + 18 = 44) ratio = 44000

Q6. A start a business with Rs. 10000, B joins him after 2 months with 20% more investment than A, after 2-month C joins him with 40% less than B. If the profit earned by them at the end of the year is equal to the twice of the difference between investment of A and ten times the investment of C. Find the profit of B?

(A) Rs35500

(B) Rs42000

(C) Rs38000

(D) Rs41100

Solution-(C) A: B: C = (10000 × 12): (12000 × 10): (7200 × 8)

= 25: 25: 12

Now the Profit = 2 × (72000 – 10000) = 124000

Q's share = 25/62 ×124000 = Rs.50000

Then profit of Q = 50000 – 12000 = Rs.38000.

Q7. Manisha and Nida are partners in a firm out of which Manisha is sleeping partner and Nida is working partner. Manisha invests Rs. 1,80,000 and Nida invests Rs. 90,000. Nida receives 14.5% of profit for managing the business and the rest is shared between both in ratio of their investments. Manisha's share in the profit of Rs. 24000 is?

(A) Rs10100

(B) Rs11500

(C) Rs12520

(D) Rs13680

Solution-(D) Profit received by Nida as working partner = 14.5% of Rs.24000 = Rs.3480

Balance in profit = 24000 – 3480 = Rs.20520

Ratio of Manisha and Nida =1,80,000: 90,000 = 2: 1

Then Manisha's share 2 × 20520/ 3 = Rs.13680

Q8. Stuti's working partner gets 20% as his commission of the profit after her commission is paid. If the working partner's commission is Rs. 8000, Then what is the total profit in the business?

(A) Rs. 47,000

(B) Rs. 45,000

(C) Rs. 48,000

(D) None of these

Solution-(C)

Sol. Total profit = K

(K – 8000) × 20/100 = 8000

K – 8000 = 40000

K = 48000

Q9. Vijays started business with Rs. 45,000 and Unnati joined afterward with 30,000. If the profit at the end of one year was divided in the ratio 2: 1 respectively, then Unnati would have joined Vijay for business after.

(A) 1 month

(B) 2 months

(C) 3 months

(D) 4 months

Solution-(C)

(45000 × 12)/ (30000 × t) = 2/1

(3 × 12)/ (2 × t) = 2/1

t = 9 months

After 3 months

Q10. Naveed and Komal jointly started a business. Naveed invested four times as Komal did and invested his money for double time as compared to Komal. Komal earned Rs. 5400. Then the total gain was?

A) Rs45000

(B) Rs48600

(C) Rs52000

(D) Rs55500

Solution-(B)

Investment's ratio is = 4:1

Time period ratio is = 2:1

Gain ratio of Naveed and Komal = 8:1

Komal got Rs. 5400,

1 = 5400, 9 = Rs48600

The total gain = Rs.48600

Q11. C & B are partners in a business, C contributes 1/4 of the capital for 15 months & B received 2/3 of the profit. For how long B's money was used

(A) 8

(B) 6

(C) 10

(D) 7

Solution-(C)

B received 2/3 of the profit C : B = 1 : 2,

Let the total capital = x,

Then C's capital = x/4, B's capital = x –x/4 = 3x/4

If B's money was used for a month's

Then C: B = (x/4) ×15: (3x/4) ×a = 1: 2 15/4: 3b/4 = 1: 2

15: 3b = 1: 2

5: b = 1: 2

a = 5×2 = 10

Q12. P and Q are partners in a business. They invest in the ratio 5: 6, at the end of 8 months P withdraws his capital. If they receive profits in the ratio of 5: 9, Find how long Q's investment was used?

(A) 12 months

(B) 10 months

(C) 15 months

(D) 14 months

Solution-(A)

Sol. x: y

5: 6

5 × 8: 6 × t

40/ (6 × t) = 5/9

t = 12 months

Q13. C and B started a boutique investing amounts of Rs. 35,00 and Rs. 56,00 respectively. If C's share in the profit earned by them is Rs. 45,00, then what is the total profit earned? (A) Rs. 81,00

(B) Rs. 1,27,00

(C) Rs. 72,00

(D) Rs. 1,17,00

Solution (D)

Sol. C: B = 3500: 5600 = 5: 8

Total profit = x

x × 5/13 = 4500

x = 1,1700

Q14. X, Y and Z enter into a partnership and their shares are in the ratio 1/2: 1/3: 1/4. After two months, X withdraws half of his capital and after 10 months, a profit of Rs.4200 is divided among them. What is Y's share?

(A) Rs1800

(B) Rs1650

(C) Rs 1600

(D) Rs1950

Solution (C)

Ratio of initial investments = 1/2: 1/3: 1/4 = 6: 4: 3.

Let their initial investments be 6x, 2x and 3x respectively.

Ratio (6x × 2) + (3x × 10): (4x × 12): (3x × 12) = 42: 48: 36 ==>7: 8: 6.

B's share = 4200 × 8/21 = Rs. 1600.

Q15. If 8 (X's Capital) = 10 (Y's Capital) = 12 (Z's Capital), then out of the total profit of Rs 2590, Z will receive?

(A) Rs. 740

(B) Rs. 630

(C) Rs. 840

(D) Rs. 730

Solution (C)

8X = 10Y = 12Z

4X = 5Y= 6Z

Y = 4X/5, C = 4X/6 = 2X/3

P: Q: R = X: 4X/5: 2X/3 = 15:12:10

C's share = 2590 × (12/37) = 70×12 = Rs. 840.