

PARTNERSHIP

1. Three partners, A,B,C invest Rs.36000, Rs.45000, Rs.54000 respectively. In a business . Out of a total profit of Rs.37500, c's share is.

Ans: 15000

Difficulty Level : Easy ☐ Moderately easy ☐ Difficult ☐

Basic Formula:

$$\frac{\text{Ratio of the respective share}}{\text{Total ratio}} \times \text{Total profit}$$

Answer with Explanation:

Step 1 : Find ratio for three partners investment

36000 : 45000 : 54000

(first divide by 1000 and then divide by 9)

4 : 5 : 6

Profit should be divided in the ratios of capitals

$$\begin{aligned}\text{Step 2: C's Share} &= \frac{\text{Ratio of the respective share}}{\text{Total ratio}} \times \text{Total profit} \\ &= 6/15 \times \text{Rs. } 37500 \\ &= \text{Rs. } 15000/-\end{aligned}$$

2. Kavitha and Sunitha are partners in a business. Kavita invests Rs.35000 for 8 months and Sunitha invests Rs.42000 for 10 months. Out of a profit of Rs.31570, Kavita's share is
ans :Rs.12628

Difficulty Level : Easy ☐ Moderately easy ☐ Difficult ☐

Basic Formula:

$$\frac{\text{Ratio of the respective share}}{\text{Total ratio}} \times \text{Total profit}$$

Answer with Explanation:

Step 1: Find ratio for two partners investment (ie ratio of their profits)

Here the partners are invested for different lengths of time. There fore to find ratio, multiply their investment with their period.

$$\begin{array}{lcl} 35000 \times 8 & : & 42000 \times 10 \\ 280000 & : & 420000 \text{ (divide by 10000 and then divide by 2)} \\ 14 & : & 21 \end{array}$$

Step 2:

$$\begin{aligned} \text{Kavitha's share} &= 14/35 \times \text{Rs. } 31570 \\ &= \text{Rs. } 12628/- \end{aligned}$$

3. Jayant opened a shop investing Rs.30000, Madhu joined him 2 months late investing Rs.45000. They earned a profit of Rs.54000 after completion of one year. What will be Madhu's share of profit?

Ans: 30000

Difficulty Level : Easy ☐ Moderately easy ☐ Difficult ☐

Basic Formula:

$$\frac{\text{Ratio of the respective share}}{\text{Total ratio}} \times \text{Total profit}$$

Answer with Explanation:

Step 1 :

Find the profit ratio. Here Madhu joined 2 month date. Therefore length of his period in 10 months. Since different amount for different period, multiply the amount with period

$$\begin{array}{rcl} 30000 \times 12 & : & 45000 \times 10 \\ 360000 & : & 450000 \text{ (divide by 10000 and then divide by 9)} \\ 4 & : & 5 \end{array}$$

Step 2:

$$\begin{array}{rcl} \text{Madhu's share} & = & 5/9 \times \text{Rs. } 54000 \\ & = & \text{Rs. } 30000/- \end{array}$$

4. Nirmal and Kapil started a business investing Rs.9000 and Rs.12000 respectively. After 6 months, kapil withdrew half of his investment. If after a years, the total profit was Rs.4600, what was kapils share in it ?

Ans Rs.2300

Difficulty Level : Easy ☐ Moderately easy ☐ Difficult ☐

Basic Formula:

$$\frac{\text{Ratio of the respective share}}{\text{Total ratio}} \times \text{Total profit}$$

Answer with Explanation:

Step 1 :

Find the profit ratio. Here after 6 months Kapil kwithdrew half of his investment. Therefore after 6 months, his investment becomes

$$\frac{\text{Rs. } 12000}{2} = \text{Rs. } 6000$$

$$\begin{array}{lcl} 9000 \times 12 & : & 12000 \times 6 + 6000 \times 6 \\ 108000 & : & 108000 \\ 1 & : & 1 \end{array}$$

Step 2:

$$\begin{aligned} \text{Kapil's share} &= \frac{1}{2} \times \text{Rs. } 4600 \\ &= \text{Rs. } 2300/- \end{aligned}$$

5. A,B and C enter into a partnership. A initially invests Rs.25 laksh and adds another Rs.10lakhs after one year. B initially invests Rs.35 laksh and withdraws Rs.10laksh after 2 years and C invests Rs.30 laksh. In what ratio should the profits be divided at the end of 3 years?

Ans: 19:19:18

Difficulty Level : Easy ☐ Moderately easy ☐ Difficult ☐

Basic Formula:

Answer with Explanation:

1. Total length of the period = 3 years
Therefore investment of A = Rs. 25 lakhs x 1 + Rs. 35 lakhs x 2
= Rs. 95 lakhs
2. A adds after one year Rs 10 lakhs
Therefore investment of B = Rs. 35 lakhs x 2 + Rs. 25 lakhs x 1
= Rs. 95 lakhs
3. B withdraws Rs. 10lakhs after 2 years
4. Investment of C = Rs. 30 x 3 = Rs. 90 lakhs
5. Profit ratio = 95 : 95 : 90
(divide by 5)
= 19 : 19 : 18

6. Mohinder and Surinder entered into a partnership investing Rs.12000 and Rs.9000 rep. After 3 months sudhir joined them with an investment of Rs.15000. What is the share of Sudhir in a halfyearly profit of Rs.9500?
ans Rs.2500

Difficulty Level : Easy ☐ Moderately easy ☐ Difficult ☐

Basic Formula:

$$\frac{\text{Ratio of the respective share}}{\text{Total ratio}} \times \text{Total profit}$$

Answer with Explanation:

1. Total length of the period = 6 months
2. After 3 months Sudhir joined, therefore his length of period is 3 months
3. Find the profit ratio

$$\begin{array}{rclcl} 12000 \times 6 & : & 9000 \times 6 & : & 15000 \times 3 \\ 72000 & : & 54000 & : & 45000 \\ \text{(divide by 1000 and then divide by 9)} & & & & \\ 8 & : & 6 & : & 5 \end{array}$$

4. Sudhir's share = $\frac{5}{19} \times \text{Rs. } 9500$
= **Rs. 2500/-**

7. A and B entered into a partnership investing Rs.16000 and Rs.12000 resp. After 3 months A withdrew Rs.5000 while B invested Rs.5000 more. After 3 more months C joins the business with a capital of Rs.21000. The share of B exceeds that of C, out of a total profit of Rs.26,400 after one year by
ans: Rs.3600

Difficulty Level : Easy ☐ Moderately easy ☐ Difficult ☐

Basic Formula:

Share of B – Share of C

Answer with Explanation:

1. Investment of A = Rs.16000 x 3 + Rs. 11000 x 9
= Rs. 147000 (Since he withdrew Rs. 5000 after 3 months)
2. Investment of B = Rs. 12000 x 3 + Rs. 17000 x 9
= Rs. 189000 (He invested Rs. 5000 more after 3 months)
3. Investment of C = Rs. 21000 x 6
= Rs. 126000 (He joined after 3 more months)
4. Profit ratio = 147 : 189 : 126 ; 7 : 9 : 6
5. Share of B = $\frac{9}{22} \times 26400$ = Rs. 10800/-
6. Share of C = $\frac{6}{22} \times 26400$ = Rs. 7200/-
7. Share of B exceeds that of C = Rs. 10800 – Rs. 7200
= **Rs. 3600/-**

8. X and Y invested in a business. They earned some profit which they divided in the ratio of 2:3. If X invested Rs.40000, the amount invested by Y is

Ans: 60,000

Difficulty Level : Easy ☐ Moderately easy ☐ Difficult ☐

Basic Formula:

Ratio of investment = Ratio of Profit

Answer with Explanation:

1. Rs. 40000 : investment of Y = 2:3
2. $40000 / \text{investment of Y} = 2/3$
3. 120000 = 2 x investment of Y
4. Investment of Y = $120000/2$
= **Rs. 60000/-**

9. Manoj received Rs.6000 as his share out of the total profit of Rs.9000 which he and RAmesh earned at the end of one year. If Manoj invested Rs.20,000 for 6 months, whereas Ramesh invested his amount for the whole year , what was the amount invested by RAmesh ?

Ans : Rs.5000

Difficulty Level : Easy ☐ Moderately easy ☐ Difficult ☐

Basic Formula:

Ratio of investment = Ratio of profit

Answer with Explanation:

Let the amount invested by Ramesh = Rs. X
He invested for 12 months = Rs. 12 X
Investment of Manoj = Rs. 20000 x 6
= Rs. 120000 (he invested for 6 months)
Profit ratio is = 6000 : 3000 ; 2 : 1
Ratio of investment = Profit ratio
120000 : 12X = 2 : 1
 $\Rightarrow \frac{120000}{12X} = \frac{2}{1}$
 $\Rightarrow 120000 = 24X$
 $\Rightarrow X = \frac{120000}{24} = \text{Rs. 5000/-}$

10. Three partners A, B, C start a business. Twice A's capital is equal to thrice B's capital and B's capital is four times C's capital. Out of a total profit of Rs. 16,500 at the end of the year B's share is ans: Rs. 6000

Difficulty Level : Easy ☐ Moderately easy ☐ Difficult ☐

Basic Formula:

$$\frac{\text{Ratio of the respective share}}{\text{Total ratio}} \times \text{Total profit}$$

Answer with Explanation:

$$\text{Given that } 2 (\text{A's Capital}) = 3 (\text{B's Capital})$$

$$\Rightarrow \text{B's capital} = \frac{2}{3} (\text{A's Capital})$$

$$\text{Similarly } B = 4 C \Rightarrow 3 B = 12 C$$

$$\therefore 2 A = 12 C \Rightarrow C = \frac{2}{12} A = \frac{1}{6} A$$

Profit ratio : A's Capital : B's Capital : C's Capital

$$A : \frac{2}{3} A : \frac{1}{6} A \Rightarrow 1 : \frac{2}{3} : \frac{1}{6}$$

$$\text{Total Ratio} = 1 + \frac{2}{3} + \frac{1}{6} = \frac{6 + 4 + 1}{6} = \frac{11}{6}$$

$$\begin{aligned} \therefore \text{B's Share} &= \frac{\frac{2}{3}}{\frac{11}{6}} \times 16500 = \frac{2}{3} \times \frac{6}{11} \times 16500 \\ &= \text{Rs. 6000/-} \end{aligned}$$

11. A,B,C subscribe Rs.50000 for a business. A subscribes Rs.4000 more than B and B Rs.5000 more than C. Out of a total profit of Rs.35000 A receives (Ans:Rs.14,700)

Difficulty Level : Easy ☐ Moderately easy ☐ Difficult ☐

Basic Formula:

$$\frac{\text{Ratio of the respective share}}{\text{Total ratio}} \times \text{Total profit}$$

Answer with Explanation:

A, B, C subscribe Rs. 50000 for a business

$$\therefore A + B + C = \text{Rs. } 50000 \text{ -----(1)}$$

Since A subscribes Rs. 4000 more than B

$$A - B = \text{Rs. } 4000 \text{ -----(2)}$$

Since B Subscribes Rs. 5000 more than C

$$B - C = \text{Rs. } 5000 \text{ -----(3)}$$

From (1), (2) and (3) A = Rs. 21000, B = Rs. 17000, and C = Rs. 12000

$$\text{Profit ratio} = 21 : 17 : 12$$

$$\therefore A's \text{ share} = \frac{21}{50} \times 35000 = \text{Rs. } 14700$$

12. Rs. 700 is divided among A, B, C so that A receives half so much as B and B half as much as C. Then C's share is

Ans: Rs. 400

Difficulty Level : Easy ☐ Moderately easy ☐ Difficult ☐

Basic Formula:

Initially take C's share = RS. 100

$$\frac{\text{Profit ratio of C}}{\text{Total ratio}} \times \text{Total profit}$$

Answer with Explanation:

$$\text{Given that A} = \frac{1}{2} B \text{ and } B = \frac{1}{2} C$$

Let us consider C's Share = Rs. 100

$$\therefore B = \frac{1}{2} \times 100 = \text{Rs. } 50$$

$$A = \frac{1}{2} \times 50 = \text{Rs. } 25/-$$

$$\therefore \text{Profit ratio} = 25 : 50 : 100$$

$$\text{Hence C's Share} = \frac{4}{7} \times \text{Rs. } 700$$

$$= \text{Rs. } 400/-$$

13. A, B, C, hire a meadow for Rs. 1095, if A puts in 10 cows for 20 days, B 30 cows for 8 days and C 16 cows for 9 days, then the rent paid by C is
Ans. Rs. 270

Difficulty Level : Easy ☐ Moderately easy ☐ Difficult ☐

Basic Formula:

$$\frac{\text{Ratio of C's rent}}{\text{Total ratio}} \times \text{Total rent}$$

Answer with Explanation:

Step 1 : Find the ratio for A, B, C rents

$$10 \times 20 : 30 \times 8 : 16 \times 9 \text{ (Since different periods are given)}$$

$$200 : 240 : 144$$

$$25 : 30 : 18 \text{ (divide by 8)}$$

Step 2: Rent paid by C

$$= \frac{18}{73} \times 1095$$

$$= \text{Rs. 270/-}$$

14. Four milkmen rented a pasture. A grazed 24 cows for 3 months; B 10 cows for 5 months, C 35 cows for 4 months and D 21 cows for 3 months. If A's share of rent is Rs.720, the total rent of the field

Ans: Rs.3250

Difficulty Level : Easy ☐ Moderately easy ☐ Difficult ☐

Basic Formula:

$$\text{Total rent} = \text{Respective rent} \times \frac{\text{Total ratio}}{\text{respective rent ratio}}$$

Answer with Explanation:

Let us consider total rent of the field = Rs.x

Ratio of 4 milkman rents are

$$24 \times 3 : 10 \times 5 : 35 \times 4 : 21 \times 3 \text{ (since different periods are given)}$$

$$72 : 50 : 140 : 63$$

$$\text{Given that A's share} = \text{Rs. 720/-}$$

$$\therefore 72 / 325 X = \text{Rs. 720/-}$$

$$\therefore X = 720 \times 325 / 72$$

$$= \text{Rs. 3250/-}$$

15. A, B and C enter into partnership. A invests some money at the beginning, B invests double the amount after 6 months and C invests thrice the amount after 8 months. If the annual profit be Rs. 27,000, C's share is
ans Rs. 9000

Difficulty Level : Easy ☐ Moderately easy ☐ Difficult ☐

Basic Formula:

$$\text{C's Share} = \frac{\text{Profit ratio of C}}{\text{Total ratio}} \times \text{Total profit}$$

Answer with Explanation:

Let us consider investment of A	=	Rs. 100/-
B	=	Rs. 200/-
C	=	Rs. 300/-

Profit ratio becomes

100 x 12 : 200 x 6 : 300 x 4 (Since B invested after 6 months and C invested after 8 months)

1200 : 1200 : 1200

1 : 1 : 1

Hence C's Share = $\frac{1}{3} \times 27000$ = **Rs. 9000/-**

16.A and B started a business jointly. A's investment was thrice the investment of B and the period of his investment was two times the period of investment of B. If B received Rs.4000 as profit, then their total profit is

Ans Rs.28,000

Difficulty Level : Easy ☐ Moderately easy ☐ Difficult ☐

Basic Formula:

$$\text{Total Profit} = \frac{\text{Respective profit}}{\text{Respective ratio}} \times \text{Total Ratio}$$

Answer with Explanation:

Let the total profit = Rs. X

Let the investment of B = Rs. 100

Let the period of investment of B = 1 year

∴ Investment of A = Rs. 300 and period of investment of A = 2 years

Profit ratio is 300 x 2 : 100 x 1

600 : 100

6 : 1

Total profit = 4000 x 7/1 = **Rs. 28000/-**

17. A, B and C started a shop by investing Rs. 27000, Rs. 72000 and Rs. 81000 respectively. At the end of the year the profits were distributed among them. If C's share of profit be Rs. 36000, then the total profit was _____
ans: Rs. 80,000

Difficulty Level : Easy ☐ Moderately easy ☐ Difficult ☐

Basic Formula:

$$\text{Total Profit} = \frac{\text{C's share}}{\text{Profit ratio of C}} \times \text{Total ratio}$$

Answer with Explanation:

Step 1 : Find the profit ratio

$$27000 : 72000 : 81000$$

$$3 : 8 : 9$$

$$\begin{aligned} \text{Step 2: Total profit} &= 36000 \times \frac{20}{9} \\ &= \text{Rs. 80000/-} \end{aligned}$$

18.A and B start a business jointly. A invests Rs.16000 for 8 months and B remains in the business for 4 months. Out of total profit B claims $\frac{2}{7}$ of the profit. How much money was contributed by B Ans Rs.12800

Difficulty Level : Easy ☐ Moderately easy ☐ Difficult ☐

Basic Formula:

Ratio of Investment = Ratio of Profit

Answer with Explanation:

Let the money contributed by B = Rs. X

Investment of A = $16000 \times 8 = \text{Rs. } 128000$

Investment of B = $4X$ (Since B remains in the business for 4 months)

Profit of B = $\frac{2}{7}$

$\therefore$ Profit of A = $1 - \frac{2}{7} = \frac{5}{7}$

Ratio of investment = Ratio of profit

$128000 : 4X = \frac{5}{7} : \frac{2}{7}$

$\frac{128000}{4X} = \frac{5}{7} \times \frac{2}{7} = \frac{5}{2}$

$20X = 25600$

$X = \text{Rs. } 12800$

19. A and B started a business with initial investments in the ratio 14:15 and their annual profits were in the ratio 7:6. If A invested the money for 10 months, for how many months did B invest his money ? Ans Rs.8

Difficulty Level : Easy ☐ Moderately easy ☐ Difficult ☐

Basic Formula:

Ratio of Investment = Ratio of Profit

Answer with Explanation:

Let the period of investment of B = X months

Ratio of investment = Profit ratio

$$14 \times 10 : 15X = 7 : 6$$

$$\Rightarrow \frac{140}{15X} = \frac{7}{6}$$

$$\Rightarrow 140 \times 6 = 7 \times 15X$$

$$\Rightarrow 840 = 105X$$

$$\Rightarrow X = \frac{840}{105} = \mathbf{8 \text{ months}}$$

20. In a partnership, A invests $\frac{1}{6}$ of the capital for $\frac{1}{6}$ of the time, B invests $\frac{1}{3}$ of the capital for $\frac{1}{3}$ of the time and C, the rest of the capital for the whole time. Out of a profit of Rs. 4600, B's share is (Ans : Rs. 800)

Difficulty Level : Easy ☐ Moderately easy ☐ Difficult ☐

Basic Formula:

$$\text{B's Share} = \frac{\text{Profit ratio of B}}{\text{Total ratio}} \times \text{Total Profit}$$

Answer with Explanation:

$$\text{Investment of A} = \frac{1}{6} \times \frac{1}{6} = \frac{1}{36}$$

$$\text{Investment of B} = \frac{1}{3} \times \frac{1}{3} = \frac{1}{9}$$

$$\text{Investment of C} = [1 - (\frac{1}{6} + \frac{1}{3})] \times 1 = \frac{1}{2}$$

(for C, rest of the capital, so subtract $\frac{1}{6} + \frac{1}{3}$ from 1 and whole time, therefore multiply by 1)

$$\text{Profit ratio is } \frac{1}{36} : \frac{1}{9} : \frac{1}{2}$$

$$\frac{1}{36} : \frac{4}{36} : \frac{18}{36} [\because \text{LCM } 36]$$

$$\text{That is } 1 : 4 : 18$$

$$\text{B's Share} = \frac{4}{23} \times 4600 = \text{Rs. 800}$$

21. A and B invest in a business in the ratio 3:2 if 5% of the total profit goes to charity and A's share is Rs.855, the total profit is (Ans Rs.1500)

Difficulty Level : Easy ☐ Moderately easy ☐ Difficult ☐

Basic Formula:

$$\text{Total Profit} = \text{A's Share} \left[\frac{\text{assumed total profit}}{\text{Assumed total profit} - \text{Rs.5}} \right] \left[\frac{\text{Sum of the ratio}}{\text{ratio of A}} \right]$$

Answer with Explanation:

Suppose the total profit = RS. 100

Given that 5% goes to charity

∴ Rs.5 goes to charity

$$\begin{aligned} \text{Total Profit} &= 855 \left[\frac{100}{100 - 5} \right] \left[\frac{3 + 2}{3} \right] \\ &= 855 \left[\frac{100}{95} \right] \left[\frac{5}{3} \right] \\ &= \text{Rs. 1500} \end{aligned}$$

∴ **Actual total profit = Rs. 1500/-**

22. A is a working, B a sleeping partner in a business. A puts in Rs. 12000 and B Rs. 20000. A receives 10% of the profits for managing, the rest being divided in proportion to their capitals. Out of a total profit of Rs. 9600, the money received by A is :

Answer : Rs. 4,200

Difficulty Level : Easy ☐ Moderately easy ☐ Difficult ☐

Basic Formula:

Answer with Explanation:

Step :1 First find the profit ratio

$$12000 : 20000$$

$$3 : 5$$

Step 2: A receives 10% of the profits for managing and

$$A \text{ receives } 10/100 \times 9600 = \text{Rs. } 960$$

Step 3 : Total profit will be reduced to

$$\text{Rs. } 9600 - \text{Rs. } 960 = \text{Rs. } 8640$$

$$\text{Step 4 : A's Share} = \frac{3}{8} \times 8640 = \text{Rs. } 3240$$

$$\begin{aligned} \text{Step 5 : Money received by A} &= \text{Rs. } 3240 + \text{Rs. } 960 \\ &= \text{Rs. } 4200/- \end{aligned}$$

23. A, B, C started a business with their investments in the ratio 1:3:5 after 4 months. A invested the same amount as before and B as well as C withdrew half of their investments. The ratio of their profits at the end of the year is
Ans: 5:6:10

Difficulty Level : Easy ☐ Moderately easy ☐ Difficult ☐

Basic Formula:

Answer with Explanation:

Length of the period = 1 year

Investment of A = $1 \times 4 + 2 \times 8 = 20$ ($\because$ after 4 months A invested the same amount)

Investment of B = $3 \times 4 + \frac{3}{2} \times 8 = 24$ ($\because$ after 4 months B withdrew half of their amount)

Similarly investment of C = $5 \times 4 + \frac{5}{2} \times 8 = 40$

$\therefore$ Profit ratio = 20 : 24 : 40
= **5 : 6 : 10**

24. Alok started a business investing Rs. 90000 after 3 months Shabir joined him with a capital of Rs. 120000. if at the end of 2 years, the total profit made by them was Rs.96000, What will be the difference between their shares?

Answer : Rs. 7,384

Difficulty Level : Easy ☐ Moderately easy ☐ Difficult ☐

Basic Formula:

Answer with Explanation:

Length of the period = 2 years

$$\begin{aligned}\text{Profit ratio} &= 90000 \times 24 : 120000 \times 21 \text{ (since Shabir joined after 3 months)} \\ &= 2160000 : 2520000 \\ &= 216 : 252 \\ &= 6 : 7\end{aligned}$$

$$\text{Alok's share} = 6/13 \times 96000 = \text{Rs. } 44307.69$$

$$\text{Shabir's share} = 7/13 \times 96000 = \text{Rs. } 51692.31$$

$$\text{Difference between their shares} = \text{Rs. } 7384/-$$

25. If 4 (A's Capital) = 6(B's Capital)= 10 (C's Capital), then out of a profit of Rs.4650, C will receive :

Answer :Rs.900

Difficulty Level : Easy ☐ Moderately easy ☐ Difficult ☐

Basic Formula:

$$\text{C's Share} = \frac{\text{Profit ratio of C}}{\text{Total ratio}} \times \text{Total Profit}$$

Answer with Explanation:

$$\text{Given that } 4A = 6B \Rightarrow B = \frac{4}{6}A = \frac{2}{3}A$$

$$4A = 10C \Rightarrow C = \frac{4}{10}A = \frac{2}{5}A$$

∴ Profit ratio becomes

$$A : B : C$$

$$A : \frac{2}{3}A : \frac{2}{5}A$$

$$1 : \frac{2}{3} : \frac{2}{5}$$

$$\Rightarrow 15/15 : 10/15 : 6/15$$

$$\Rightarrow 15 : 10 : 6 \text{ (LCM = 15)}$$

$$\begin{aligned} \text{Hence C's Share} &= \frac{6}{31} \times 4650 \\ &= \text{Rs. 900/-} \end{aligned}$$

26. Kamal started a business investing Rs.9000. After 5 months, Sameer joined with a capital of Rs.8000. If at the end of year, they earn a profit of Rs.6970, then what will be share of Sameer in the profit?

Rs.1883.78

Rs.2380

Rs.3690

Rs.3864

Difficulty Level : Easy ☐ Moderately easy ☐ Difficult ☐

Basic Formula:

$$\text{Sameer's Share} = \frac{\text{Ratio of his profit}}{\text{Total Ratio}} \times \text{Total profit}$$

Answer with Explanation:

Length of the period = 1 year

Ratio of the profit :

$$9000 \times 12 : 8000 \times 7 (\because \text{Sameer joined after 5 months})$$

$$108000 : 56000$$

$$108 : 56$$

$$27 : 14$$

$$\therefore \text{Sameer's share} = 14/41 \times 6970$$

$$= \text{Rs. 2380}$$

27. A, B and C rent a pasture. A puts 10 oxen for 7 months, B puts 12 oxen for 5 months and C puts 15 oxen for 3 months for grazing. If the rent of the pasture is Rs.175, how much must C pay as his share of rent?

Rs.45

Rs.50

Rs.55

Rs.60

Difficulty Level : Easy ☐ Moderately easy ☐ Difficult ☐

Basic Formula:

$$\text{Rent of C} = \frac{\text{Ratio of his rent}}{\text{Total Ratio}} \times \text{Total rent}$$

Answer with Explanation:

Ratio of the rent

10 x 7 : 12 x 5 : 15 x 3 ($\because$ different periods are given)

70 : 60 : 45

14 : 12 : 9

$\therefore$ Rent of C = $9/35 \times 175$

= **Rs. 45/-**

28. A and B started a business in partnership investing Rs.20,000 and Rs.15,000 respectively. After six months, C joined them with Rs.20,000. What will be B's shares in the total profit of Rs.25,000 earned at the end of 2 years from the starting of the business?

Rs.7500 Rs.9000 Rs.9500 None of these

Difficulty Level : Easy ☐ Moderately easy ☐ Difficult ☐

Basic Formula:

$$\text{B's Share} = \frac{\text{Ratio of his profit}}{\text{Total Ratio}} \times \text{Total profit}$$

Answer with Explanation:

Length of the period = 2 year

Ratio of the profit :

$$20000 \times 24 : 15000 \times 24 : 20000 \times 18 (\because \text{C joined after 6 months})$$

$$480000 : 360000 : 360000$$

$$4 : 3 : 3$$

$$\therefore \text{B's share} = \frac{3}{10} \times 25000$$

$$= \text{Rs. 7500/-}$$

29. A, B and C enter into a partnership. They invest Rs.40, 000, Rs.80, 000 and Rs.1, 20, 000 respectively. At the end of the first year, B withdraws Rs.40, 000, while at the end of the second year, C withdraws Rs.80, 000. In what ratio should the profits be divided at the end of 3 years?

2 : 3 : 5 3 : 4 : 7 4 : 5 : 9 None of these

Difficulty Level : Easy ☐ Moderately easy ☐ Difficult ☐

Basic Formula:

Answer with Explanation:

Length of the period = 3 years

Investment of A = 40000×3 = Rs.
120000

Investment of B = $80000 \times 1 + 40000 \times 2$ = Rs.
160000

(at the end of first year he withdrew Rs. 40000)

Investment of C = $120000 \times 2 + 40000 \times 1$ = Rs.
280000

(at the end of second year he withdrew Rs. 80000)

$$\begin{aligned}\text{Profit ratio} &= 12 : 16 : 28 \\ &= \mathbf{3 : 4 : 7}\end{aligned}$$

- 30. A and B start a business with investments of Rs.5000 and Rs.4500 respectively. After 4 months, A takes out half of his capital. After two months, B takes out one-third of his capital while C joins them with a capital of Rs.7000. At the end of a year they earn a profit of Rs.5080. Find the share of each member in the profit.

A – Rs.1400, B – Rs.1900, C – Rs.1780

A – Rs.1600, B – Rs.1800, C – Rs.1680

A – Rs.1800, B – Rs.1500, C – Rs.1780

A – Rs.1680, B – Rs.1600, C – Rs.1800

Difficulty Level : Easy ☐ **Moderately easy** ☐ **Difficult** ☐

Basic Formula:

Answer with Explanation:

Length of the period = 1 years

Investment of A = $5000 \times 4 + 2500 \times 8$ = Rs.
40000

Investment of B = $4500 \times 6 + 3000 \times 6$ = Rs.
45000

Investment of C = 7000×6 = Rs.
42000

Profit ratio = 40 : 45 : 42

A's share = $40 / 127 \times 5080$ = Rs. 1600/-

B's share = $45 / 127 \times 5080$ = Rs. 1800/-

C's share = $42 / 127 \times 5080$ = Rs. 1680/-

31. A and B entered into partnership with capitals in the ratio 4 : 5. After 3 months, A withdrew $\frac{1}{4}$ of his capital and B withdrew $\frac{1}{5}$ of his capital. The gain at the end of 10 months was Rs.760. A's share in this profit is:

Rs.330

Rs.360

Rs.380

Rs.430

Difficulty Level : Easy ☐ Moderately easy ☐ Difficult ☐

Basic Formula:

$$\text{A's Share} = \frac{\text{Ratio of his profit}}{\text{Total Ratio}} \times \text{Total profit}$$

Answer with Explanation:

Length of the period = 10 months

After 3 months ratio of A and B becomes

$$4 - \frac{1}{4} \times 4 : 5 - \frac{1}{5} \times 5$$

$$4-1 : 5-1 = 3 : 4$$

Ratio of the profit :

$$4 \times 3 + 3 \times 7 : 5 \times 3 + 4 \times 7$$

$$33 : 43$$

$$\therefore \text{A's share} = \frac{33}{76} \times 760$$

$$= \text{Rs. 330/-}$$

32. A, B and C jointly thought of engaging themselves in a business venture. It was agreed that A would invest Rs.6500 for 6 months, B, Rs.8400 for 5 months and C, Rs.10, 000 for 3 months. A wants to be the working member for which he was to receive 5% of the profits. The profit earned was Rs.7400. Calculate the share of B in the profit.

Rs.1900

Rs.2660

Rs.2800

Rs.2840

Difficulty Level : Easy ☐ Moderately easy ☐ Difficult ☐

Basic Formula:

$$\text{B's Share} = \frac{\text{Ratio of his profit}}{\text{Total Ratio}} \times \text{Total profit}$$

Answer with Explanation:

$$\text{A receiveds 5\% of the profits} = 5/100 \times 7400 = \text{Rs. 370}$$

$$\therefore \text{ total profit reduces to Rs. } 7400 - \text{Rs. } 370 = \text{Rs. } 7030$$

Profit ratio :

$$6500 \times 6 : 8400 \times 3 : 10000 \times 3$$

$$39000 : 42000 : 30000$$

$$13 : 14 : 10$$

$$\therefore \text{ B's share} = 14/37 \times 7030$$

$$= \text{Rs. 2660/-}$$

33. A began a business with Rs.85, 000. He was joined afterwards by B with Rs.42, 500. For how much period does B join, if the profits at the end of the year are divided in the ratio of 3 : 1

4 months 5 months 6 months **8 months**

Difficulty Level : Easy ☐ Moderately easy ☐ Difficult ☐

Basic Formula:

$$\frac{A's \text{ capital} \times A's \text{ time in partnership}}{B's \text{ capital} \times B's \text{ time in partnership}} = \frac{A's \text{ profit}}{B's \text{ profit}}$$

Answer with Explanation:

Length of the period = 1 year

Let the period of B = Y months

Using the above formula:

$$\frac{85000 \times 12}{42500 \times Y} = 3/1$$

$$\frac{2 \times 12}{Y} = 3/1$$

$$24 = 3Y$$

$$Y = 24/3 = \mathbf{8 \text{ months}}$$

34. A, B and C contract a work for Rs.1100, A and B together are to do $\frac{7}{11}$ of the work. C's share is :

Answer : Rs. 400

Difficulty Level : Easy ☐ Moderately easy ☐ Difficult ☐

Basic Formula:

Answer with Explanation:

Given that A and B together are to do $\frac{7}{11}$ of the work

C has to do $1 - \frac{7}{11}$ of the work

$$\text{That is } \frac{11-7}{11} = \frac{4}{11} \text{ of the work}$$

$$\begin{aligned} \text{C's share} &= \frac{4}{11} \times \text{Rs. 1100} \\ &= \text{Rs. 400/-} \end{aligned}$$

35. A, B, and C enter into a partnership with a capital in which A's contribution is a Rs. 10000. If out of a total profit of Rs. 1000, a gets Rs. 500 and B gets Rs. 300 and then C's capital is :

Answer: Rs. 4000

Difficulty Level : Easy ☐ Moderately easy ☐ Difficult ☐

Basic Formula:

Ratio of investment = ratio of profit

Answer with Explanation:

Ratio of investment 10000 : Y : Z

(assume B as Rs. Y and C as Rs.Z)

Ratio of profit 500 : 300 : 200

5 : 3 : 2

Ratio of investment = ratio of profit

Consider A and C ($\because$ investemnet of A is given and c's capital we have to find)

$$10000 : Z = 5 : 2$$

$$10000/Z = 5/2 \Rightarrow 20000 = 5Z$$

$$\Rightarrow Z = 20000/5 = \text{Rs. 4000}$$

Hence C's Capital = Rs. 4000/-