

EXERCISE SOLUTION

RETIREMENT OF A PARTNER (NEW PROFIT-SHARING RATIO & GAINING RATIO)

Q1. Gita, Radha and Garv were partners sharing profits in the ratio of $\frac{1}{2}$, $\frac{2}{5}$ and $\frac{1}{10}$. Find the new ratio of the remaining partners if Garv retires.

Solution – Old Ratio = $\frac{1}{2}:\frac{2}{5}:\frac{1}{10}$ - 5:4:1

As we can see, there is no information given that how Geeta & Radha are Acquiring Garv's profit share after his retirement
So, the new profit sharing ratio of Geeta and Radha is – 5:4

Q2. From the following particulars, calculate new profit-sharing ratio of the partners:

- a) Shiv, Mohan and Hari were partners in a firm sharing profits in the ratio of 5:5:4. Mohan retired and his share was divided equally between Shiv and Hari.
- b) P, Q and R were partners sharing profits in the ratio of 5:4:1. P retires from the firm.

Solution –

- a) Old Ratio – 5:5:4

Mohan's Profit Share – $\frac{5}{14}$

Mohan share divided between Shiv & Hari equally – 1:1

Mohan taken by Shiv – $\frac{5}{14} \times \frac{1}{2} =$

$\frac{5}{28}$ Mohan taken by Hari – $\frac{5}{14} \times \frac{1}{2}$
 $= \frac{5}{28}$

New Profit Share = Old Profit Share + Share taken From Mohan

Shiv's new share – $\frac{5}{14} + \frac{5}{28} =$

$\frac{15}{28}$ Hari's new Share = $\frac{4}{14} + \frac{5}{28}$

$= \frac{13}{28}$ New Profit Ratio – 15:13

- b) Old Ratio = 5:4:1

P's Profit Share = $\frac{5}{10}$

As we can see, there is no information given that how Q & R are

acquiring P's profit share after his retirement.

So, the new profit sharing ratio of Q and R is – 4:1

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Q3. R, S and M are partners sharing profits in the ratio of $\frac{2}{5}$, $\frac{2}{5}$ & $\frac{1}{5}$. M decides to retire from the business and his share is taken by R and S in the ratio of 1:2. Calculate the new profit-sharing ratio.

Solution – Old Ratio – 2:2:1

M retires from the firm his profit share – $\frac{1}{5}$

M's Share taken by R & S in ratio –

$$1:2R - \frac{1}{5} \times \frac{1}{3} = \frac{1}{15}$$

$$S - \frac{1}{5} \times \frac{2}{3} = \frac{2}{15}$$

New Ratio = Old Ratio + Share Acquired from

$$MR - \frac{2}{5} + \frac{1}{15} = \frac{7}{15}$$

$$S - \frac{2}{5} + \frac{2}{15} = \frac{8}{15}$$

New ratio – 7:8

Q2. X, Y and Z are partners sharing profits in the ratio of $\frac{1}{2}$, $\frac{3}{10}$ and $\frac{1}{5}$. Calculate the gaining ratio of remaining partners when Y retires from the firm.

Solution – Calculation of Gaining Ratio:-

$$\text{Old Ratio} - \frac{1}{2}:\frac{3}{10}:\frac{1}{5} = 5:3:2$$

New ratio – 5:2

Gaining Share = New Share – Old Share

$$X's = \frac{5}{7} - \frac{5}{10} = \frac{15}{70}$$

$$Z's = \frac{2}{7} - \frac{2}{10} = \frac{6}{70}$$

Gaining ratio between x and y 15:6=5:2

Q5. Sarthak, Vansh and Mansi were partners sharing profits in the ratio of 4:3:2. Sarthak retires. Vansh and Mansi will share future profits in the ratio of 2:1. Determine the gaining ratio.

Solution – Old ratio – 4:3:2

New Ratio – 2:1

Gaining Ratio = New Ratio – Old Ratio

$$\text{Vansh's} = \frac{2}{3} - \frac{3}{9} =$$

$$\frac{3}{9} \text{Mansi's} = \frac{1}{3} - \frac{2}{9} =$$

$$\frac{1}{9} \text{Gaining Profit} - 3:1$$

Q6. (a) W, X, Y & Z are partners sharing profits and losses in the ratio of $\frac{1}{3}, \frac{1}{6}, \frac{1}{3}$ & $\frac{1}{6}$ respectively. Y retires and W, X & Z decide to share the profits and losses equally in future. Calculate gaining ratio.

(b) A, B & C are partners sharing profits and losses in the ratio of 4:3:2. C retire from the business A takes $\frac{4}{9}$ of C's share and balance is taken by B. calculate the new profit-sharing ratio and gaining ratio.

Solution –

a) Old Ratio =

2:1:2:1 New Ratio

= 1:1:1

Gaining Ratio = New Ratio – Old Ratio

W's = $\frac{1}{3} - \frac{2}{6} =$

$\frac{0}{6}$ X's = $\frac{1}{3} - \frac{1}{6} =$

$\frac{1}{6}$ Z's = $\frac{1}{3} - \frac{1}{6} =$

$\frac{1}{6}$

Gaining Ratio – 0:1:1

b) Old Ratio = 4:3:2

C profit share – $\frac{2}{9}$

A – $\frac{4}{9}$ of C's Share & remaining share is by B

A – $\frac{2}{9} \times \frac{4}{9} = \frac{8}{81}$

B – C's Share – Share by A

= $\frac{2}{9} - \frac{8}{81} = \frac{10}{81}$

New Profit Share = Old Profit Share + Share acquired from C

A's new share – $\frac{4}{9} + \frac{8}{81} = \frac{44}{81}$

B's New Share – $\frac{3}{9} + \frac{10}{81} =$

$\frac{37}{81}$ New profit Ratio A & B –

44:37

Gaining Ratio = New Ratio – Old Ratio

A's = $\frac{44}{81} - \frac{4}{9} = \frac{8}{81}$

B's = $\frac{37}{81} - \frac{3}{9} = \frac{10}{81}$

Gaining Ratio – 8:10 or 4:5

Q7. Kumar, Lakshya, Manoj and Naresh are partners sharing profits in the ratio of 3:2:1:4. Kumar retires and his share is taken by Lakshya and Manoj in the ratio of 3:2. Calculate new profit-sharing ratio and gaining ratio of the remaining partners.

Solution – Kumar's Share –

$\frac{3}{10}$ Lakshya & Manoj – 3:2

Lakshya – $\frac{3}{10} \times \frac{3}{5} =$

$\frac{9}{50}$ Manoj – $\frac{3}{10} \times \frac{2}{5} =$

$\frac{6}{50}$

New share of Lakshya's – $\frac{2}{10} + \frac{9}{50} =$

$\frac{19}{50}$ new share of Manoj's – $\frac{1}{10} + \frac{6}{50} =$

$\frac{11}{50}$ Naresh's share – $\frac{4}{10}$ or $\frac{20}{50}$

New Profit Sharing Ratio –

19:11:20 Gaining Ratio – 3:2

Q8. A, B & C were partners in a firm sharing profits in the ratio of 8:4:3. B retires and his share is taken up equally by A & C. find the new profit-sharing ratio.

Solution – Old Ratio – 8:4:3

B retires from the firm & profit share – $\frac{4}{15}$

B's share taken by A & C in ratio –

1:1 A – $\frac{4}{15} \times \frac{1}{2} = \frac{2}{15}$

C – $\frac{4}{15} \times \frac{1}{2} = \frac{2}{15}$

New Ratio = Old Ratio – Share acquired from B

A's new share – $\frac{8}{15} + \frac{2}{15} = \frac{10}{15} =$

$\frac{2}{3}$ C's New share – $\frac{3}{15} + \frac{2}{15} = \frac{5}{15}$

$= \frac{1}{3}$ New profit ratio – 2:1

Q9. A, B & C are partners sharing profits in the ratio of 5:3:2. C retires and his share is taken by A. Calculate new profit-sharing ratio of A & B.

Solution – Old Ratio – 5:3:2

C retire from the firm his profit share – $\frac{2}{10}$

C's share is taken by A

New Ratio = Old Ratio + Share Acquired from C

A's new share – $\frac{5}{10} + \frac{2}{10} =$

$\frac{7}{10}$ B's New Share – $\frac{3}{10} + 0 =$

$\frac{3}{10}$ New Profit Ratio – 7:3

Q10. Murli, Naveen and Omprakash are partners sharing profits in the ratio of $\frac{3}{8}$, $\frac{1}{2}$ & $\frac{1}{8}$. Murli retires & surrenders $\frac{2}{3}^{\text{rd}}$ of his share in favour of Naveen and remaining share in favour of omprakash.

Calculate new profit-sharing ratio and gaining ratio of the remaining partners.

Solution – Old Ratio – 3:4:1

Murli's share – $\frac{3}{8}$

Naveen share acquired – $\frac{3}{8} \times \frac{2}{3} = \frac{2}{8}$

Omprakash share acquired – $\frac{3}{8} - \frac{2}{8} =$

$\frac{1}{8}$ Gaining ratio – 28:18 – 2:1

Naveen's new share – $\frac{4}{8} + \frac{2}{8} = \frac{6}{8}$

Omprakash's New share – $\frac{1}{8} + \frac{1}{8} =$

$\frac{2}{8}$ new profit sharing ratio – 3:1