



Q9. Radha and Rukmani are partners in a firm sharing profits in 3:2 ratio. They admitted Gopi as a new partner. Radha surrendered $\frac{1}{3}$ of her share in favour of Gopi and Rukmani surrendered $\frac{1}{4}$ of her share in favour of Gopi. Calculate new profit sharing ratio?
Solution.

$$\begin{array}{lcl} & \text{Radha:} & \text{Rukmani} \\ \text{Old Ratio} = & 3: & 2 \\ & = \frac{3}{5} : & \frac{2}{5} \end{array}$$

Radha surrendered in favour of Gopi $= \frac{1}{3}$ of his share

Rukmani surrendered in favour of Gopi $= \frac{1}{4}$ of his share

Sacrificing Ratio = Old Ratio \times Surrender Ratio

$$\text{Radha} = \frac{3}{5} \times \frac{1}{3} = \frac{1}{5}$$

$$\text{Rukmani} = \frac{2}{5} \times \frac{1}{4} = \frac{1}{10}$$

New Ratio = Old Ratio - Sacrificing Ratio

$$\text{Radha} = \frac{3}{5} - \frac{1}{5} = \frac{2}{5}$$

$$\text{Rukmani} = \frac{2}{5} - \frac{1}{10} = \frac{4-1}{10} = \frac{3}{10}$$

Gopi's Share = Radha's Sacrificing Ratio + Rukmani's Sacrificing Ratio

$$= \frac{1}{5} + \frac{1}{10}$$

$$= \frac{2+1}{10}$$

$$= \frac{3}{10}$$

$$\begin{array}{lcl} & \text{Radha:} & \text{Rukmani:} & \text{:Gopi} \\ \text{New Ratio} = & \frac{2}{5} : & \frac{3}{10} : & \frac{3}{10} \end{array}$$

$$= \frac{4:3:3}{10}$$

$$= 4:3:3$$

Q10. Singh, Gupta and Khan are partners in a firm sharing profits in 3:2:3 ratio. They admitted Jain as a new partner. Singh surrendered $\frac{1}{3}$ of his share in favour of Jain. Gupta surrendered $\frac{1}{4}$ of his share in favour of Jain and Khan surrendered $\frac{1}{5}$ in favour of Jain. Calculate new profit sharing ratio?
Solution.

	Singh:	Gupta	:Khan
Old Ratio =	3:	2:	3
=	$\frac{3}{8}$:	$\frac{2}{8}$:	$\frac{3}{8}$

Singh surrendered = $\frac{1}{3}$ of his share

Gupta surrendered = $\frac{1}{4}$ of his share

Khan surrendered = $\frac{1}{5}$ of his share

Sacrificing Ratio = Old Ratio \times Surrender Ratio

Singh's = $\frac{3}{8} \times \frac{1}{3} = \frac{3}{24}$

Gupta's = $\frac{2}{8} \times \frac{1}{4} = \frac{2}{32}$

Khan's = $\frac{3}{8} \times \frac{1}{5} = \frac{3}{40}$

Singh's Sacrifice + Gupta's Sacrifice + Khan's Sacrifice

Jain's Share = $\frac{3}{24} + \frac{2}{32} + \frac{3}{40}$

$$= \frac{60 + 30 + 36}{480}$$

$$= \frac{126}{480}$$

$$= \frac{21}{80}$$

New Ratio = Old Ratio - Sacrificing Ratio

Singh's = $\frac{3}{8} - \frac{3}{24} = \frac{9-3}{24} = \frac{6}{24}$

Gupta's = $\frac{2}{8} - \frac{2}{32} = \frac{8-2}{32} = \frac{6}{32}$

Khan's = $\frac{3}{8} - \frac{3}{40} = \frac{15-3}{40} = \frac{12}{40}$

	Singh:	Gupta:	Khan:	Jain
New Ratio =	$\frac{6}{24}$:	$\frac{6}{32}$:	$\frac{12}{40}$:	$\frac{21}{80}$:
=	$\frac{120 : 90 : 144 : 126}{480}$			
=	20 : 15 : 24 : 21			

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