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

	Radha:	Rukmani
Old Ratio =	3:	2
=	$\frac{3}{5}$:	$\frac{2}{5}$

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 × Surrender Ratio

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

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

New Ratio = Old Ratio - Sacrificing Ratio

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

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

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

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

$= \frac{3}{10}$

	Radha:	Rukmani:	:Gopi
New Ratio=	$\frac{2}{5}$:	$\frac{3}{10}$:	$\frac{3}{10}$

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

$= 4:3:3$

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 1/3 of his share in favour of Jain. Gupta surrendered 1/4 of his share in favour of Jain and Khan surrendered 1/5 infavour 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 × 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=	$\frac{6}{24}$:	$\frac{6}{32}$:	$\frac{12}{40}$:	$\frac{21}{80}$:

$= \frac{120 : 90 : 144 : 126}{480}$

$= 20 : 15 : 24 : 21$

********** END **********