Numbers.

Q1. A and B were partners in a firm sharing profits and losses in the ratio of 3:2. They admit C into the partnership with 1/6 share in the profits. Calculate the new profit sharing ratio?
Solution.

$$\text{Old Ratio} = \begin{matrix} A:B \\ 3:2 \end{matrix}$$

OR

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

c admits for $\frac{1}{6}$ share of new profit in new firm.

Let new firm profit = 1
Remaining share of A and B in the new firm
= 1- C's share

$$= 1 - \frac{1}{6}$$

$$= \frac{5}{6}$$

New Ratio = Old Ratio × Remaining Share

$$A = \frac{3}{5} \times \frac{5}{6} = \frac{15}{30}$$

$$B = \frac{2}{5} \times \frac{5}{6} = \frac{10}{30}$$

$$\text{New Ratio} = \begin{matrix} A: & B & :C \\ \frac{15}{30} : & \frac{10}{30} : & \frac{1}{6} \end{matrix}$$

$$= \frac{15:10:5}{30}$$

$$= 15:10:5$$

$$= 3:2:1$$

Q2. A, B, C were partners in a firm sharing profits in 3:2:1 ratio. They admitted D for 10% profits. Calculate the new profit sharing ratio?
Solution.

$$\text{Old Ratio} = \begin{matrix} A: & B & :C \\ 3: & 2: & 1 \end{matrix} = \frac{3}{6} : \frac{2}{6} : \frac{1}{6}$$

D admits for $\frac{10}{100}$ share in the new firm

Let new firm profit = 1

Remaining share of A, B and C in new firm

= 1 - D's share

$$= 1 - \frac{10}{100}$$

$$= \frac{90}{100}$$

$$= \frac{9}{10}$$

New Ratio = Old Ratio × Remaining Share

$$A = \frac{3}{6} \times \frac{9}{10} = \frac{27}{60}$$

$$B = \frac{2}{6} \times \frac{9}{10} = \frac{18}{60}$$

$$C = \frac{1}{6} \times \frac{9}{10} = \frac{9}{60}$$

$$\text{New Ratio} = \begin{matrix} A: & B & :C & :D \end{matrix} \quad \frac{27}{60} : \frac{18}{60} : \frac{9}{60} : \frac{1}{10}$$

$$= \frac{27 : 18 : 9 : 6}{60}$$

$$= 9 : 6 : 3 : 2$$

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