2. PROFIT & LOSS SOLUTION

Some Acronyms

(कुछ महत्त्वपूर्ण संक्षिप्तियाँ)

CP → Cost Price (क्रय मूल्य/ लागत मूल्य)

SP → Selling Price (विक्रय मूल्य)

MP → Marked Price (अंकित मूल्य)

OP → Original Price (वाक्तविक मूल्य)

RP → Reduced Price (घटा हुआ मूल्य)

1. (d) According to question,

12 CP = 8 SP

$\frac{CP}{SP} = \frac{8}{12} = \frac{2}{3} >$ 1 Profit

Profit% = $\frac{1}{2} \times 100 =$ **50%**

2. (d) According to question,

8 CP = 9 SP

$\frac{CP}{SP} = \frac{9}{8} >$ 1 loss

Loss% = $\frac{1}{9} \times 100$

= $\mathbf{11\frac{1}{9}\%}$ **loss**

3. (a) According to question,

Let the total no. of item (माना कि वस्तुओं की कुल संख्या) = 100 units

The CP of 1 item (1 वस्तु का क्रय मूल्य) = Rs.1

Given, 16 SP = 20% of item of CP

16 SP = $\frac{20}{100} \times 100 = 20$ CP

16 SP = 20 CP

$\frac{CP}{SP} = \frac{16}{20} = \frac{4}{5} >$ 1 Profit

Profit% = $\frac{1}{4} \times 100 =$ **25%**

4. (b) According to question,

10 CP = 7 SP

$\frac{CP}{SP} = \frac{7}{10} >$ 3 units profit

Profit% = $\frac{3}{7} \times 100 = 42\frac{6}{7}\%$ gain

5. (b) According to question,

2750 CP = 2500 SP

$\frac{CP}{SP} = \frac{2500}{2750} = \frac{10}{11} >$ 1 Unit Profit

Profit% = $\frac{1}{10} \times 100 = 10\%$ gain

6. (a) Given (दिया गया है):

36 CP = 30 SP

$\frac{CP}{SP} = \frac{30}{36} = \frac{5}{6} >$ 1 (Profit)

Profit (लाभ)% = $\frac{\text{Profit (लाभ)}}{\text{CP (क्रय मूल्य)}} \times 100$

= $\frac{1}{5} \times 100 = 20\%$

7. (c) Given (दिया गया है):

15 CP (क्रय मूल्य) = 10 SP (विक्रय मूल्य)

$\frac{\text{CP (क्रय मूल्य)}}{\text{SP (विक्रय मूल्य)}} = \frac{10}{15} = \frac{2}{3}$ 1(Profit/लाभ)

Profit (लाभ)% = $\frac{\text{Profit (लाभ)}}{\text{CP (क्रय मूल्य)}} \times 100$

= $\frac{1}{2} \times 100 = 50\%$

8. (d) Given, SP of 5 articles (5 वस्तुओं का वि.मू.) = CP of 3 articles (3 वस्तुओं का क्रय मूल्य)

$\frac{SP}{CP} = \frac{3}{5}$

∴ Loss = 5 – 3 = 2

Loss = $\frac{2}{5} \times 100 = 40\%$

9. (b) According to question,

SP of 3 toys = CP of 4 toys

$\frac{SP}{CP} = \frac{4}{3} >$ 1 gain

gain% = $\frac{\text{Gain}}{CP} \times 100$

= $\frac{1}{3} \times 100 = \mathbf{33\frac{1}{3}\%}$

10. (c) According to question,
CP of 15 tables = SP of 20 tables

$\frac{CP}{SP} = \frac{20}{15} >$ 5 units loss

$\therefore$ Loss% = $\frac{5}{20} \times 100 =$ **25%**

11. (b) According to question,
CP of 18 articles (18 वस्तुओं का क्रय मूल्य) =
SP of 15 articles (15 वस्तुओं का वि.मू.)

$\frac{CP}{SP} = \frac{15}{18} >$ 3 units profit

Profit% = $\frac{3}{15} \times 100 =$ **20% Profit**

12. (a) According to question,

$\frac{CP}{SP} = \frac{5}{4} >$ 1 unit loss

loss% = $\frac{1}{5}$ = **20% loss**

13. (a) According to question,

$\frac{CP}{SP} = \frac{20}{21} >$ 1 units profit

Profit% = $\frac{1}{20} \times 100 =$ **5%**

14. (d) According to question,

SP = $\frac{8}{5} \times$ CP

$\frac{SP}{CP} = \frac{8}{5} >$ 3 gain

gain% = $\frac{3}{5} \times 100 =$ **60%**

15. (d) According to question,
CP of 25 articles = SP of 20 articles

$\frac{CP}{SP} = \frac{20}{25} \Rightarrow \frac{4}{5} >$ 1 profit

Profit% = $\frac{1}{4} \times 100 =$ **25%**

16. (d) According to question,
50 CP = 40 SP

$\frac{CP}{SP} = \frac{40}{50} >$ 10 profit

Profit % = $\frac{10}{40} \times 100 =$ **25%**

17. (b) According to question,
12 CP = 10 SP

$\frac{CP}{SP} = \frac{10}{12} \Rightarrow \frac{5}{6} >$ 1 profit

Profit% = $\frac{1}{5} \times 100 =$ **20%**

18. (a) According to question,
10 CP = 9 SP

$\frac{CP}{SP} = \frac{9}{10} >$ 1 profit

Profit% = $\frac{1}{9} \times 100 =$ **11** $\frac{\mathbf{1}}{\mathbf{9}}$ **%**

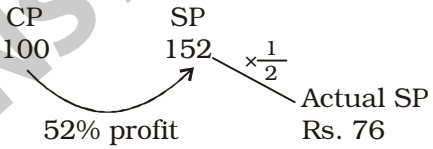
Loss% = $\frac{12}{32} \times 100 = 37.5\%$

19. (a) According to question

$\frac{CP}{SP} = \frac{5}{6} >$ 1 Unit Profit

Profit% = $\frac{\text{Profit}}{CP} \times 100 = \frac{1}{5} \times 100 =$ **20%**

20. (d) According to question,



152 units → Rs. 76

1 unit → $\frac{76}{152} \Rightarrow = \frac{1}{2}$

100 units → $\frac{1}{2} \times 100 = 50$

CP → Rs. 50
$\therefore$ If SP → Rs. 75

Profit% = $\frac{25}{50} \times 100 = 50\%$

21. (d) According to question,

$\frac{CP}{SP} = \frac{20}{15} = \frac{4}{3} >$ 1 unit loss

loss% = $\frac{1}{4} \times 100 =$ **25%**

22. (b) According to question,
10 CP = 16 SP

$\frac{CP}{SP} = \frac{16}{10} = \frac{8}{5} >$ 3 units loss

loss% = $\frac{3}{8} \times 100 =$ **37.5%**

23. (b) According to question,
10 CP = 18 SP

$\frac{CP}{SP} = \frac{18}{10} = \frac{9}{5} >$ 4 units loss

loss% = $\frac{4}{9} \times 100 =$ **$44\frac{4}{9}$%**

24. (d) According to question,
10 SP = 13 CP

$\frac{SP}{CP} = \frac{13}{10} >$ 3 units profit

Profit% = $\frac{3}{10} \times 100 =$ **30%**

25. (c) According to question,
20 CP = 15 SP

$\frac{CP}{SP} = \frac{15}{20} = \frac{3}{4} >$ 1 unit Profit

Profit% = $\frac{1}{3} \times 100 =$ **$33\frac{1}{3}$%**

26. (d) According to question,
24 CP = 18 SP

$\frac{CP}{SP} = \frac{18}{24} = \frac{3}{4} >$ 1 units profit

Profit% = $\frac{1}{3} \times 100 =$ **$33\frac{1}{3}$%**

27. (d) According to question,
CP = 80% of SP

CP = $\frac{80}{100}$ SP

$\frac{CP}{SP} = \frac{80}{100} = \frac{4}{5} >$ 1 units profit

Profit% = $\frac{1}{4} \times 100 =$ **25%**

28. (b) According to question,
15 CP = 12 SP

$\frac{CP}{SP} = \frac{12}{15} = \frac{4}{5} >$ 1 unit profit

Profit% = $\frac{1}{4} \times 100 =$ **25%**

29. (d) According to question,
10 CP = 8 SP

$\frac{CP}{SP} = \frac{8}{10} = \frac{4}{5} >$ 1 unit profit

Profit% = $\frac{1}{4} \times 100 =$ **25%**

30. (c) According to question,
Let CP of 1 lemon is = Rs. 1
400 CP = 320 SP

$\frac{CP}{SP} = \frac{320}{400} = \frac{4}{5} >$ 1 units profit

Profit% = $\frac{1}{4} \times 100 =$ **25%**

31. (c) According to question,
12 SP = 15 CP

$\frac{CP}{SP} = \frac{15}{12} = \frac{5}{4} >$ 1 unit profit

Profit% = $\frac{1}{4} \times 100 =$ **25%**

32. (c) According to question,
b = 200% of a

b = $\frac{200}{100} \times a$

$\frac{b}{a} = \frac{2}{1}$

$\frac{CP}{SP} = \frac{a}{b} = \frac{1}{2} >$ 1 unit profit

Profit% = $\frac{1}{1} \times 100 = 100\%$

33 (c) According to question,
400 SP = 320 CP

$\frac{CP}{SP} = \frac{400}{320} = \frac{5}{4} >$ 1 units loss

Loss% = $\frac{1}{5} \times 100 =$ **20%**

34. (c) According to question,
400 CP = 320 SP

$\frac{SP}{CP} = \frac{400}{320} = \frac{5}{4} >$ 1 units profit

Profit% = $\frac{1}{4} \times 100 =$ **25%**

35. (d) According to question,
18 CP = 16 SP

$\frac{CP}{SP} = \frac{16}{18} = \frac{8}{9} \Big\rangle$ 1 unit profit

Profit% = $\frac{1}{8} \times 100 = \mathbf{12\frac{1}{2}\%}$

36. (a) According to question,
CP of toys = Rs. 5
SP of toys = Rs. 4.5
Loss = CP – SP = 5 – 4.5 = 0.5

Loss% = $\frac{0.5}{5} \times 100 = 10\%$

37. (c) According to question,

$\frac{\text{CP of Refrigerator}}{\text{CP of Television}} = \frac{5}{3} \Big\rangle$ 2 units

2 units = 5500

1 unit = $\frac{5500}{2} = 2750$

5 units = 2750 × 5 = 13750
CP of Refrigerator = Rs. 13750

38. (d) CP of a book ranges between (1 पुस्तक का क्रय मूल्य 150 रु. से 300 रु. के बीच में है) = 150 to 300 Rs.
SP of a book ranges between (1 पुस्तक का विक्रय मूल्य 250 रु. में से 350 रु. के बीच में है) = 250 to 350 Rs.
for maximum profit CP should minimum & SP should be maximum (अधिकतम लाभ के क्रय मूल्य न्यूनतम होना चाहिए और विक्रय मूल्य अधिकतम होना चाहिए।)
So, CP = 150
SP = 350
Profit = SP – CP
= 350 – 150
= Rs. 200/book
Total Profit on 15 books = 200 × 15
= **Rs. 3000**

39. (c) According to the question,
⇒ 100 CP = 60 SP

$\frac{CP}{SP} = \frac{60}{100} \Big\rangle$ 40 units profit

⇒ profit % = $\frac{40}{60} \times 100 = 66\frac{2}{3}\%$

40. (b) According to the question,

$\frac{CP}{SP} = \frac{10}{11} \Big\rangle$ 1 units profit

Profit% = $\frac{1}{10} \times 100 = 10\%$

41. (c) CP of 25 chairs = SP of 30 chairs
25 CP = 30 SP

$\frac{CP}{SP} = \frac{30}{25}$

$\frac{CP \longrightarrow 6}{SP \longrightarrow 5} \Big)$ 1 unit loss

Loss % = $\frac{1}{6} \times 100 = 16\frac{2}{3}\%$

42. (b) Basic Method/मूल विधि
According to question (प्रश्नानुसार),
First Machine gain
(पहली मशीन पर लाभ) = 10%
∴SP (विक्रय मूल्य) = 10% of CP (क्रय मूल्य)

396 = $\frac{110}{100}$ × CP (क्रय मूल्य)

CP (क्रय मूल्य) = $\frac{396 \times 100}{110}$
= Rs. 360
for second Machine:- Loss = 10%
∴SP (विक्रय मूल्य) = 90% of CP (क्रय मूल्य)

396 = $\frac{90}{100}$ × CP (क्रय मूल्य)

CP (क्रय मूल्य) = $\frac{100 \times 396}{90}$ = Rs. 440

Total CP (क्रय मूल्य) = Rs. (360 + 440)
= Rs. 800
Total SP (विक्रय मूल्य)= Rs. (396 + 396)
= Rs. 792
Loss (हानि) = Rs. 8

Loss (हानि)% = $\frac{8}{800} \times 100 = 1\%$ Loss (हानि)

Alternate:

	Machine (1)	Machine (2)
CP	$10_9 = 90$	$10_{11} = 110$
	10% Profit	10% Loss
SP	$11_9 = 99$	$9_{11} = 99$

Total CP = 90 + 110 = 200
Total SP = 99 + 99 = 198
Loss = 200 – 198 = 2

$$\text{Loss (हानि)\%} = \frac{2}{200}\times 100 = 1\%\ \text{loss (हानि)}$$

43. (c) According to question (प्रश्नानुसार),

	House		Shop	
CP	10	20% Loss	10	20% gain
SP	8		12	
for same SP			**Total**	

CP $10_{\times 12} = 120$ $10_{\times 8} = 80$
SP $8_{\times 12} = 96$ $12_{\times 8} = 96$ Loss = 8 units

A.T.Q. 192 units = 2 lakhs

$$1\ \text{unit} = \frac{2}{192}\ \text{lakh}$$

$$8\ \text{units} = \frac{2}{192}\times 8 = \frac{1}{2}\ \textbf{lakh}$$

44. (d) Quicker Approach,
Always loss in such type of questions,
(इस तरह के प्रश्नों में हमेशा हानि होती है)

$$\text{Loss\%} = \frac{\text{Loss\%}\times\text{Profit\%}}{100}$$

$$= \frac{20\times 20}{100} = \textbf{4\% loss}$$

45. (a) **Quicker Approach,**
Always loss in such type of questions,
(इस तरह के प्रश्नों में हमेशा हानि होती है)

$$\text{Loss\%} = \frac{\text{Loss\%}\times\text{Profit\%}}{100}$$

$$= \frac{10\times 10}{100} = 1\%\ \text{loss}$$

46. (c) According to question,

	Pipes-1	**Pipes-2**	**Total**	
CP	$10_{\times 8} = 80$	$10_{\times 12} = 120$	200	loss 8 units
SP	$12_{\times 8} = 96$	$8_{\times 12} = 96$	192	→ 24
	make SP same			

192 units → Rs. 24

$$1\ \text{unit} \rightarrow \frac{24}{192}$$

$$8\ \text{unit} \rightarrow \frac{24}{192}\times 8 = \textbf{Rs. 1 loss}$$

47. (b) In such type of question always loss (इस तरह के प्रश्नों में हमेशा हानि होती है)
Quicker approach (तीव्र विधि)

$$\frac{\text{P\%}\times\text{L\%}}{100} = \frac{10\times 10}{100} = 1\%\ \text{loss}$$

Alternate:-

	Tape-1		Tape-2	Total	
CP	$10_9 = 90$	+10% profit	$10_{11} = 110$	200	2 unit loss
SP	$11_9 = 99$		$9_{11} = 99$	198	
	to make SP same				

$$\text{loss\%} = \frac{2}{200}\times 100 = \textbf{1\% loss}$$

48. (b) Quicker approach
Alternate:

	Table – 1		Table – 2	Total	
CP	$10_{\times 9} = 90$	+10% profit	$10_{\times 11} = 110$	200	2 unit loss
SP	$11_{\times 9} = 99$		$9_{\times 11} = 99$	198	
	to make SP same		–10% loss		

$$\text{loss\%} = \frac{2}{200}\times 100 = \textbf{1\% loss}$$

49. (d) According to question,

	Article – 1		Article – 2	Total	
CP	$5_{\times 4} = 20$	+20% profit	$5_{\times 6} = 30$	50	2 unit loss
SP	$6_{\times 4} = 24$		$4_{\times 6} = 24$	48	
	to make SP same		–20% loss		

$$\text{loss\%} = \frac{2}{50} \times 100$$

$$= 4\% \text{ loss}$$

Quicker approach

$$\frac{P\% \times L\%}{100} = \frac{20 \times 20}{100} = 4\% \text{ loss}$$

50. (b) According to question,

48 units Rs. → 24000

$$1 \text{ unit} \rightarrow \frac{24000}{48} = 500$$

50 units → 500 × 50 = Rs. 25000

CP → Rs. 25000

SP → Rs. 24000

Loss = CP – SP

25000 – 24000 = **Rs. 1000**

51. (d) According to question,

	Bicycles – 1	Bicycles – 2	Total	
CP	$20_{19} = 380$	$20_{21} = 420$	800	2 unit loss
SP	$21_{19} = 399$	$19_{21} = 399$	798	

to make SP of both bicytcle same

$$\text{loss\%} = \frac{2}{800} \times 100 = \textbf{0.25\% loss}$$

52. (d) According to question,

	Watch – 1	Watch – 2	Total	
CP	$5_{\times 4} = 20$	$5_{\times 6} = 30$	50	2 unit loss
SP	$6_{\times 4} = 24$	$4_{\times 6} = 24$	48	

$$\text{loss\%} = \frac{2}{50} \times 100 = \textbf{4\% loss}$$

53. (d) According to question,

	TV – 1	TV – 2	Total	
CP	$10_9 = 90$	$10_{11} = 110$	200	2 unit loss
SP	$11_9 = 99$	$9_{11} = 99$	198	

to make SP of both TV same

$$\text{loss\%} = \frac{2}{200} \times 100 = 1\% \text{ loss}$$

54. (c) According to question,

	Car	Jeep	Total	
CP	$5_6 = 30$	$5_4 = 20$	50	2 unit loss
	–20% loss	+20% profit		
SP	$4_6 = 24$	$6_4 = 24$	48	

to make SP same

48 units → 240000 × 2

$$1 \text{ unit} \rightarrow \frac{240000}{48} \times 2 = 10000$$

2 units → 10000 × 2 = **Rs. 20000**

55. (c) According to question,

	Chair-1	Chair-2	Total	
CP	$5_4 = 20$	$5_6 = 30$	50	2 unit loss
	20% profit	–20% loss		
SP	$6_4 = 24$	$4_6 = 24$	48	

to make SP same of both chair

$$\text{Loss\%} = \frac{2}{50} \times 100 = \textbf{4\% loss}$$

56. (b) According to question,

	Chair-1	Chair-2	Total	
CP	$4_{\times 3} = 12$ +	$4_{\times 5} = 30$	32	2 unit loss
	25% profit	25% loss		
SP	$5_{\times 3} = 15$ +	$3_{\times 5} = 15$	30	

to make SP same of both chair

30 units = 120 × 2 = 240

$$1 \text{ unit} = \frac{240}{30}$$

$$2 \text{ units} = \frac{240}{30} \times 2 = \textbf{Rs. 16}$$

57. (d) Quicker approach (तीव्र विधि):

$$\Rightarrow \frac{P\% \times L\%}{100} = \frac{20 \times 20}{100} = 4\% \text{ loss}$$

Note: In this type of question always loss
(इस प्रकार के प्रश्नों में हमेशा हानि होती है)

58. (d) According to question,

	Article-1	Article-2	Total	
CP	$4_{\times 3} = 12$	$4_{\times 5} = 20$	32	2 unit loss
SP	$5_{\times 3} = 15$ (25% profit)	$3_{\times 5} = 15$ (25% loss)	30	

$$\text{Loss\%} = \frac{2}{32} \times 100 = \mathbf{6\frac{1}{4}\%}$$

59. (a) **SHORTCUT METHOD**

$$\frac{(\text{Profit}) \times (\text{Loss})}{100}$$

$$\Rightarrow \frac{10 \times (-10)}{100}$$

$\Rightarrow -1\%$ (Loss)

60. (a) According to question (प्रश्नानुसार),

Loss (हानि) = 10%

$\Rightarrow$ SP = 100 – 10 = 90%

$90\% \Rightarrow$ 240 (given)

$$1\% \Rightarrow \frac{240}{90}$$

To gain 20%

SP (20% लाभ कमाने के लिए वि.मूल्य)

= 100 + 20 = 120%

$$120\% = \frac{240}{90} \times 120 = \mathbf{Rs.\ 320}$$

Alternate Method (**वैल्पिक विधि**):

$$10\% = \frac{1}{10} \begin{matrix} \rightarrow \text{Loss} \\ \rightarrow \text{ CP} \end{matrix}$$

SP = 10 – 1 = 9

9 = 240 (given)

$$1 \text{ unit} = \frac{240}{9}$$

$$\text{To gain } 20\% = \frac{2}{10} \begin{matrix} \rightarrow \text{Gain} \\ \rightarrow \text{ CP} \end{matrix}$$

SP = 10 + 2 = 12

$$\therefore 12 \text{ units} = \frac{240}{9} \times 12 = \text{Rs. } 320$$

61. (a) ATQ

Loss 20%

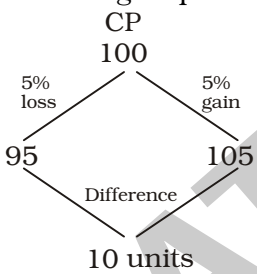
SP = 100% – 20 = 8%

80% = 480

1 = 480/80

$$(\text{profit } 20\%) = \frac{480}{80} \times 120 = 720$$

62. (c) According to question,



10 units = Rs. 5

$$1 \text{ unit} = \frac{5}{10}$$

$$\therefore \text{CP} = 100 \text{ units} = \frac{5}{10} \times 100 = \mathbf{Rs.\ 50}$$

63. (d) According to question,

10% loss

CP	Loss	SP
10	1	9
$\downarrow \times 8$		$\downarrow \times 8$
80 (Ans.)		72

Profit% = 5%

$$\text{New SP} = 80 \times \frac{105}{100} = 84$$

64. (c) According to question,

for 9% loss

CP	Loss	SP
100	9	91
		$\downarrow$
		105

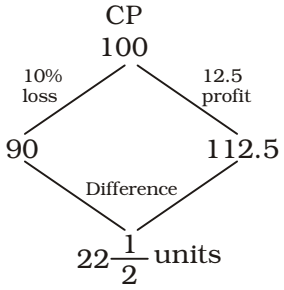
for 30% Profit

CP	Profit	SP
100	30	130

$$\Rightarrow 1\text{unit} \rightarrow \frac{105}{91}$$

$$\Rightarrow 130 \text{ unit} \rightarrow \frac{105}{91} \times 130 = \mathbf{Rs.\ 150}$$

65. (a) According to question,



$22\frac{1}{2}$ units = 9

1 unit = $9 \times \frac{2}{45}$

100 units = $\frac{2}{5} \times 100$

= **Rs. 40.**

66. (d) Acccording to question,

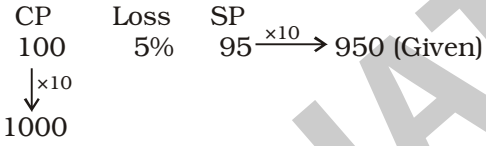
Difference in Price = 400 – 350 = Rs. 50

as 5% = Rs. 50

1% = Rs. 10

C.P. = 100% = 10 × 100 = **Rs. 1000**

67. (b) According to question,



∴ CP = Rs. 1000

SP = Rs. 1040

Profit% = Rs. 40

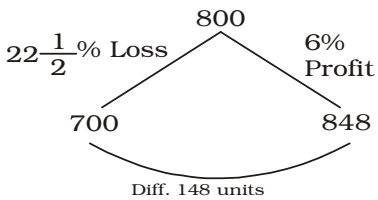
Profit% = $\frac{40}{1000} \times 100$ = **4%**

68. (a) According to question,

$12\frac{1}{2}$% loss means = $\frac{1}{8}$

or $\frac{100 \rightarrow \text{Loss}}{800 \rightarrow \text{CP}}$

∴



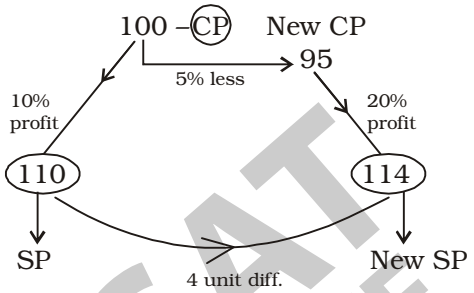
148 units → 51.80

1 unit → $\frac{51.8}{148}$

800 units → $\frac{51.8}{148} \times 800 = 280$

CP = **Rs. 280**

69. (c) According to question,



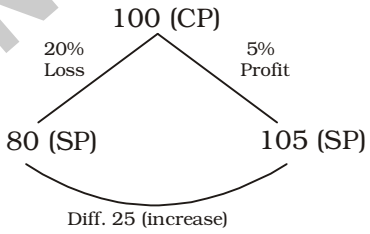
4 units difference = Rs. 80 [Given]

1 unit → 20

100 units → 20 × 100 = Rs. 2000

CP of table = **Rs. 2000**

70. (c) According to question,



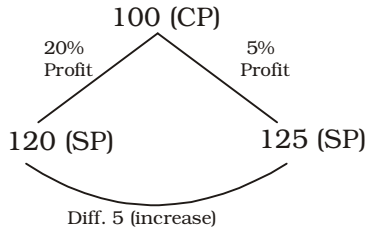
25 units → 100

1 unit → 4

100 units → 4 × 100 = Rs. 400

CP = **Rs. 400**

71. (b) According to question,



5 units → 35

1 unit → 7

100 units → 7 × 100 = Rs. 700

CP = Rs. 700

72. (b) According to question,

100 (CP) $\xrightarrow{20\%\text{ gain}}$ 120 (SP)

If he sell double the price means SP (यदि वह दोगुने मूलय पर बेचता है तो विक्रय मूल्य) = 120 × 2 = 240

Profit% = $\frac{140}{100}\times 100$ = **140%**

73. (c) According to question,

100 (CP) $\xrightarrow{10\%\text{ loss}}$ 90 (SP) $\xrightarrow{\times 500}$ 45000 (Given)

90 units → 45000

1 unit → 500

100 units → 500 × 100 = 50,000

CP = Rs. 50,000

To gain 15% = $\frac{15}{100}\times 50000$ = Rs. 7500

∴ SP = 50000 + 7500 = **Rs. 57500**

74. (a) According to question,

100 (CP) $\xrightarrow{10\%\text{ profit}}$ 110 (SP) $\xrightarrow{\times 9}$ 990 **(Given)**

110 units → 990, 1 unit → 9

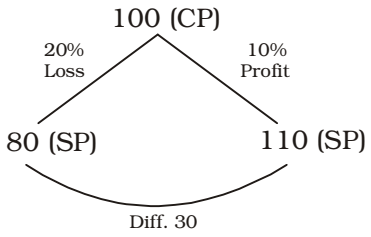
100 units → 9 × 100 = 900

CP = Rs. 900

Now SP = Rs. 890

∴ loss = CP – SP = 900 – 890 = Rs. 10 loss

75. (b) According to question,



30 units → 12

1 unit → $\frac{12}{30}$

100 units → $\frac{12}{30}\times 100$ = Rs. 40

CP = Rs. 40

76. (c) According to question,

100(CP) $\xrightarrow{11\%\text{ loss}}$ 80(SP) $\xrightarrow{\times 2}$ = 178 (Given)

89 units → 178

1 unit → 2

100 units → 2 × 100 = 200

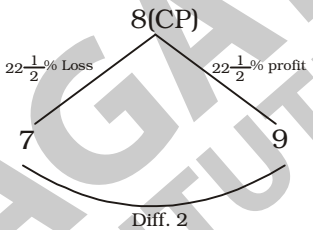
CP → Rs. 200

to earn 11% profit SP (11% लाभ कमाने के लिए विक्रय मूल्य होगा) = 200 + $\frac{11}{100}\times 200$

= 200 + 22 = Rs. 222

77. (c) Let the CP = 8 units

According to question,



2 units → 13

1 unit → $\frac{13}{2}$

8 units → $\frac{13}{2}\times 8$ = Rs. 52

78. (b) Let CP of the article = Rs. x

According to question,

$\frac{x-50}{x}\times 100 = \frac{70-x}{x}\times 100$

$2x = 120$

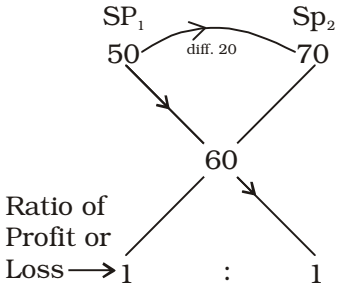
$x = 60$

∴ CP = Rs. 60

SP = 50

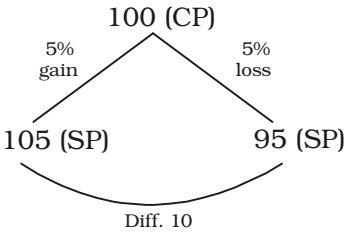
loss% = $\frac{10}{60}\times 100 = \frac{100}{6} = 16\frac{2}{3}\%$

Alternative



$$\text{Loss\%} = \frac{10}{60} \times 100 = 16\frac{2}{3}\%$$

79. (c) Let CP of article is 100 Units
According to question,



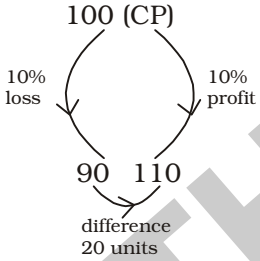
10 units $\rightarrow$ 5

unit $\rightarrow \frac{5}{10}$

100 units $\rightarrow \frac{5}{10} \times 100 = 50$

CP of article = Rs. 50

80. (a) Let CP of the article (माना कि वस्तु का क्रय मूल्य) = 100 units (यूनिट)
According to question,



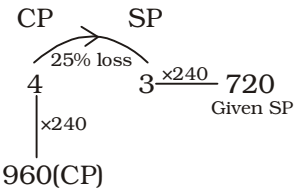
20 units $\rightarrow$ Rs. 10

1 unit $\rightarrow \frac{1}{2}$

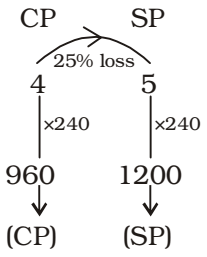
100 units $\rightarrow \frac{1}{2} \times 100 = 50$

$\therefore$ CP of the article is (वस्तु का क्रय मूल्य) = **Rs. 50**

81. (a) According to question,

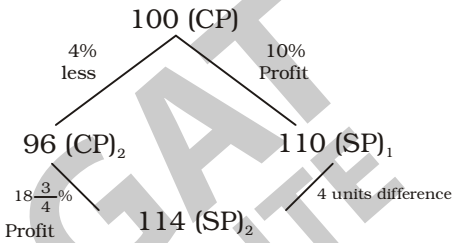


Now to gain 25%



$\therefore$ SP = **Rs. 12000**

82. (c) Let CP of the book = 100 units



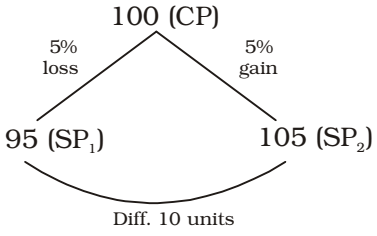
4 units = 6

1 unit = $\frac{6}{4}$

100 units = $\frac{6}{4} \times 100 = 150$

$\left[18\frac{3}{4}\% = \frac{3}{16} = 96 + \frac{3}{16} \times 96 = 114\right]$

83. (d) Let CP of the Typewriter = 100 unit
According to question,



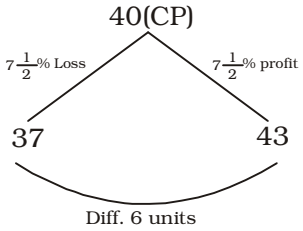
10 units = 80

1 unit = $\frac{80}{10}$

100 units = $\frac{80}{10} \times 100 = 800$

CP of the Typewriter = **Rs. 800**

84. (b) Let CP of the article (माना कि वस्तु का क्रय मूल्य) = 40 units (यूनिट)
According to question,



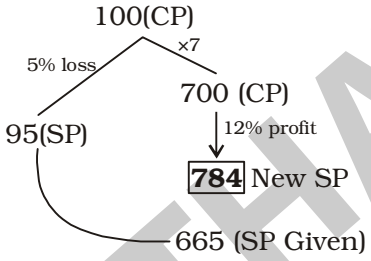
6 units → Rs. 3

1 unit → $\frac{3}{6} \times 1 = \frac{1}{2}$

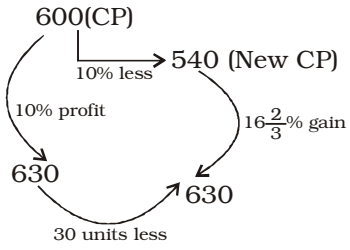
40 units → $\frac{1}{2} \times 40 = 20$

CP = Rs. 20

85. (d) Let CP of the article (माना कि वस्तु का क्रय मूल्य) = Rs. 100
According to question,



86. (c) Let CP of the commodity (माना कि वस्तु का क्रय मूल्य) = 600 unit
According to question,



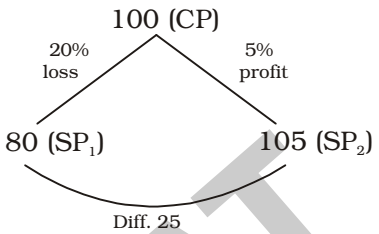
30 units → Rs. 2

1 unit → $\frac{2}{30}$

600 units → $\frac{2}{30} \times 600 = 40$

CP of the article = **Rs. 40**

87. (d) Let CP of the article is (माना कि वस्तु का क्रय मूल्य) = 100 units
According to question,



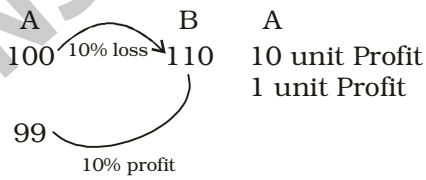
25 units → Rs. 50

1 unit → $\frac{50}{25}$

100 units → $\frac{50}{25} \times 100 = 200$

CP = **Rs. 200**

88. (b) According to question,



A total profit → 11 units

A total profit% → $\frac{11}{100} \times 100 = 11\%$

89. (c) Let SP = Rs. x
According to question,

$$\left(\frac{CP - x}{CP}\right) \times 100 = \left(\frac{2x - CP}{CP}\right) \times 100$$

$CP - x = 2x - CP$

$3x = 2CP$

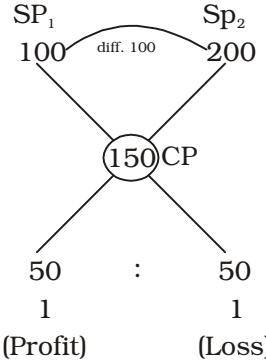
$x = \frac{2}{3} CP$

$SP = \frac{2}{3} CP$

$\frac{SP}{CP} = \frac{2}{3}$ > 1 unit loss

$$\text{loss\%} = \frac{1}{3} \times 100 = 33\frac{1}{3}\%$$

Alternative:



CP → 150

loss → 50

$$\text{loss\%} \rightarrow \frac{50}{150} \times 100 = 33\frac{1}{3}\%$$

90. (a) Let CP of the article = Rs. 100

According to question,

$$100\ (\text{CP}) \xrightarrow{10\%\ \text{profit}} 110\ (\text{SP})$$

Now CP becomes = 110

$$110\ (\text{CP}) \xrightarrow{10\%\ \text{loss}} 99\ (\text{SP})$$

$\therefore$ loss = CP – SP

= 100 – 99 = 1

$$\text{loss\%} = \frac{1}{100} \times 100 = 1\%$$

Alternative:

According to question,

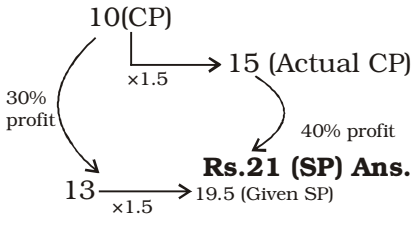
$$= a - b - \frac{ab}{100}$$

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

= –1% [(–) sign shows loss]

91. (a) Let the CP of basket = 10 unit

According to question,



13 units → 19.5

1 unit → 1.5

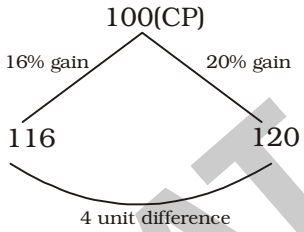
10 units → 1.5 × 10 = 15

CP → Rs. 15

$$\therefore \text{S.P} = 15 \times \frac{140}{100} = 21$$

92. (c) Let the CP of the cooker = 100 unit

According to question,



4 units → 20

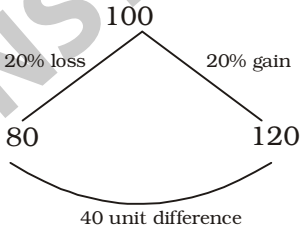
100 unit → 5

100 units → 5 × 100 = 500

CP = Rs. 500

93. (b) Let the CP of the article = 100 unit

According to question,



40 units → Rs. 60

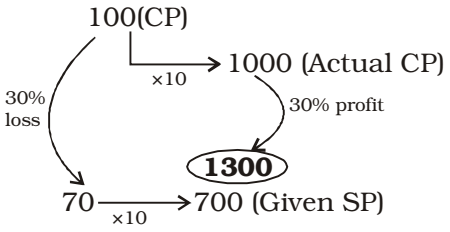
1 unit → $\frac{60}{40}$

100 units → $\frac{60}{40} \times 100$ = Rs. 150

CP = Rs. 150

94. (d) Let the CP of the article = 100 unit

According the question,



70 units = 700

$1 \text{ unit} = \frac{700}{70} \times 100 = 10$

100 units = 10 × 100 = 1000
CP = Rs. 1000
to gain 30%

$SP = 1000 + \frac{30}{100} \times 1000$

$= 1000 + 300$

= 13000 Ans

95. (d) According to question,
CP of the bedsheet = Rs.450

$\text{Profit} = 10\% \text{ on SP} = \frac{1 \rightarrow \text{Profit}}{10 \rightarrow \text{SP}}$

∴ CP = SP – Profit
CP = 10 – 1 = 9 units
9 units = 450

$1 \text{ unit} = \frac{450}{9} = 50$

10 units = 50 × 10 = 500
∴ SP = **Rs. 500**

96. (c) Let the CP of the Article is = Rs. 100
According to question,

$100 \text{ (CP)} \xrightarrow{200\% \text{ profit}} 300 \text{ (SP)}$

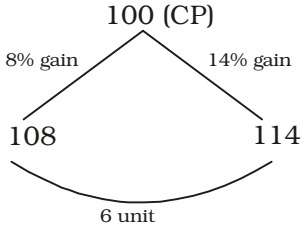
$\text{Ratio of } \frac{CP}{SP} = \frac{100}{300} = \frac{1}{3}$

97. (c) Let CP of the Article = Rs. 100
According to question,

$100 \text{ (CP)} \xrightarrow{5\% \text{ profit}} 105 \text{ (SP)}$

$\text{Ratio of } \frac{SP}{CP} = \frac{105}{100} = \frac{21}{20}$

98. (b) Let CP of bicye is = 100 units
According to question,



6 units = Rs. 75

$1 \text{ unit} = \frac{75}{6}$

$100 \text{ units} = \frac{75}{6} \times 100 = \text{Rs. } 1250$

∴ CP of bicycle = Rs. 1250

99. (b) S.P of cycle = Rs. 2850
Profit% = 14%

$CP = \frac{SP}{(100 + P\%)} \times 100$

$CP = \frac{2850}{114} \times 100$

New profit% = 8%

$\text{New SP} = CP \times \frac{(100 + P\%)}{100}$

$= \frac{2850 \times 100}{114} \times \frac{108}{100} = \text{Rs. } 2700$

100. (a) Let CP of the article is = 100
According to question,

$100 \text{ (CP)} \xrightarrow{4\% \text{ loss}} 96 \text{ (SP)}$

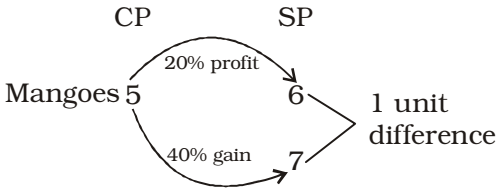
96 units → Rs. 960

$1 \text{ unit} \rightarrow \frac{960}{96}$

$100 \text{ units} \rightarrow \frac{960}{96} \times 100 = 1000$

CP = Rs. 1000

101. (a) According to question,



1 unit = Rs. 1
∴ SP of the mangoes in first case (पहली स्थिति में आम का वि.मू.) = Rs. 6

102. (a) Let CP of Hand Cart (माना कि हाथ से खीचने वाले ठेले का क्रय मूल्य) = 100
According to question,

$100 \quad \text{(CP)} \quad \xrightarrow{25\% \text{ loss}} \quad 75 \quad \text{(SP)}$

$\xrightarrow{\times\frac{48}{5}}$ 720 (Given)

75 units = 720

1 unit = $\frac{720}{75} \Rightarrow \frac{48}{5}$

100 units = $\frac{48}{5} \times 100 = 960$

CP = Rs. 960

to gain 25% SP is (25% लाभ कमाने के लिए विक्रय मूल्य) = CP + Profit % × CP

$= 960 + \frac{25}{100} \times 960$

= 960 + 240 = **Rs. 1200**

103. (b) According to question,

Cheats while buying (खरीदते समय धोखा) = 10%

Cheats while selling (बेचते समय धोखा)

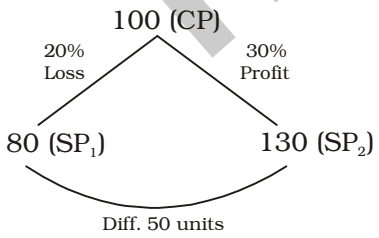
$\therefore \left(a+b+\frac{ab}{100}\right)\%$

$= 10 + 10 + \frac{10 \times 10}{100} = 20 + 1$

Increase in profit % (प्रतिशत लाभ में वृद्धि) = 21%

104. (a) Let CP of the book = 100

According to question,



50 units = Rs. 108

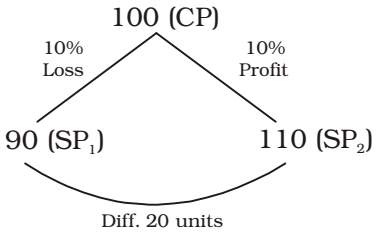
1 unit = $\frac{108}{50}$

100 units = $\frac{108}{50} \times 100$ d = Rs. 216

$\therefore$ CP = **Rs. 216**

105. (b) Let CP of the book = 100

According to question,



20 units = Rs. 108

1 unit = Rs. $\frac{108}{20}$

100 units = $\frac{108}{20} \times 100$ = Rs. 540

CP = **Rs. 540**

106. (b) According to question,

	Radio – 1	Radio – 2
CP	$5_{\times 14} = 70$	$15_{\times 6} = 90 = 160$
	20% profit	$6\frac{2}{3}\%$ loss
SP	$6_{\times 14} = 84$	$14_{\times 6} = 84 = 168$

to make SP same

160 units = 1920

1 unit = $\frac{1920}{160} = 12$

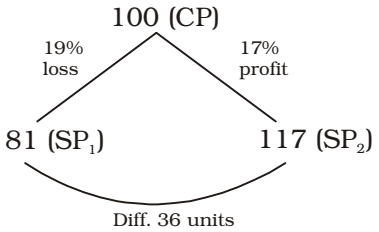
70 units = 12 × 70 = 840

90 units = 12 × 90 = 1080

CP of both Radio (दोनों रेडियो का क्रय मूल्य) = Rs. 840, Rs. 1080

107. (a) Let CP of article = 100

According to question,



36 units = 162

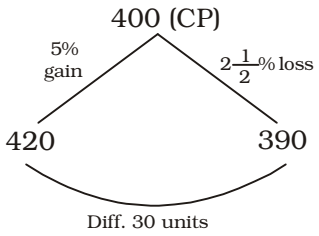
1 unit = $\frac{162}{36}$

100 units = $\frac{162}{36} \times 100 = 450$

$\therefore$ CP of the article = **Rs. 450**

108. (b) Let CP of the article = 400

According to question,



30 untis = 12

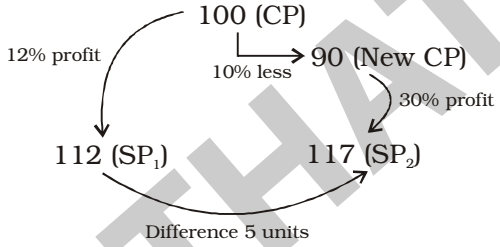
1 unit = $\frac{12}{30}$

400 units = $\frac{12}{30} \times 400 = 160$

CP of the article = **Rs. 160**

109. (c) Let the CP of the article = Rs. 100

According to question,



5 units = Rs. 5.75

1 units = $\frac{5.75}{5} \times 100$

100 units = $\frac{5.75}{5} \times 100 = 115$

$\therefore$ CP of the article = Rs. 115

to gain 20%

$\therefore$ SP of the article = $115 + \frac{20}{100} \times 115$

SP = **Rs. 138 Ans.**

110. (a) Let CP of the table is = 100 unit

According to question,

100 (CP) $\xrightarrow{5\% \text{ loss}}$ 95 (SP)

95 units = 1140

1 unit = $\frac{1140}{95} = 12$

100 units = 12 × 100 = 1200

CP of the table to gain 5% profit (5% लाभ कमाने के लिए टेबल का विक्रय मूल्य)

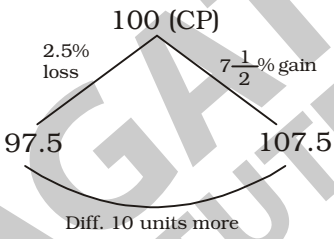
= $1200 + \frac{5}{100} \times 1200$

= 1200 + 60

= **Rs. 1260**

111. (b) Let CP of the Radio = 100 unit

According to question,



10 units = 100

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

100 units = 100 × 10 = 1000

CP of the radio = Rs. 1000

to gain $12\frac{1}{2}$% SP of the radio ($12\frac{1}{2}$% लाभ कमाने के लिए रेडियो का विक्रय मूल्य) = 1000

+ $\frac{12.5}{100} \times 1000$

= Rs. 1125

112. (d) Let CP of the selling fan = 100 unit

According to question,

100 (CP) $\xrightarrow{10\% \text{ loss}}$ 90 (SP)

90 units = 600

1 unit = $\frac{600}{90} = \frac{20}{3}$

100 units = $\frac{20}{3} \times 100 = \frac{2000}{3}$

to gain 20% SP of fan

= $\frac{2000}{3} + \frac{20}{3} \times \frac{2000}{3}$

= **Rs. 800**

113. (c) Let the CP of the article = 100
According to question,

$100\ (CP) \xrightarrow{15\%\ loss} 85\ (SP)$

85 units = 170

$1 \text{ unit} = \frac{170}{85} = 2$

100 units = 2 × 100 = 200
CP of the article = Rs. 200
In order to gain 20% SP of the article
(20% लाभ कमाने के लिए वस्तु का विक्रय मूल्य) =

$200 \times \frac{120}{100} = 240$

New Selling Price = **Rs. 240**

114. (c) Let CP of the article = 100 unit
According to question,

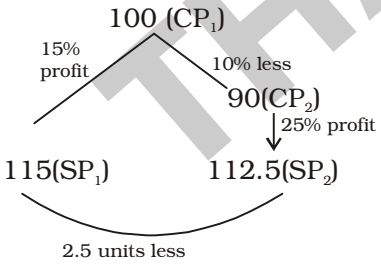
5 units = 27

$1 \text{ unit} = \frac{27}{5}$

$100 \text{ units} = \frac{27}{5} \times 100 = 540$

CP of the article = **Rs. 540 Ans.**

115. (c) Let CP of the article = 100
According to question,



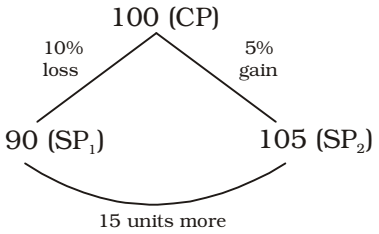
2.5 units = 4

$1 \text{ unit} = \frac{4}{2.5}$

$100 \text{ units} = \frac{4}{2.5} \times 100 = 160$

CP of the article = Rs. 160

116. (a) Let CP of the article = 100
According to question,



15 units = 90

$1 \text{ unit} = \frac{90}{15}$

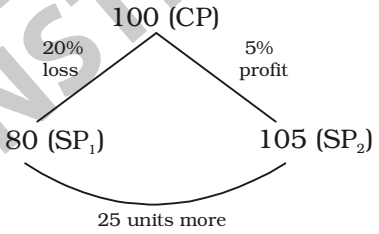
$100 \text{ units} = \frac{90}{15} \times 100 = 600$

∴ CP of the article = Rs. 600

$90 \text{ units} = \frac{90}{15} \times 90 = 540$

∴ original SP = **Rs. 540**

117. (b) Let CP of the article = 100
According to question,



25 units = 200

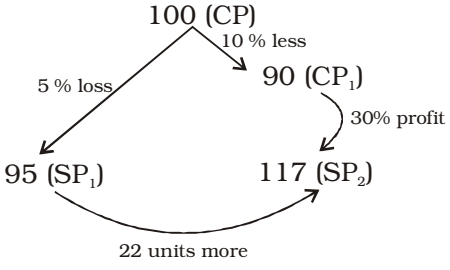
$1 \text{ unit} = \frac{200}{25}$

$100 \text{ units} = \frac{200}{25} \times 100$

= 800

CP of the article = Rs. 800

118. (c) Let CP of the article = 100
According to question,



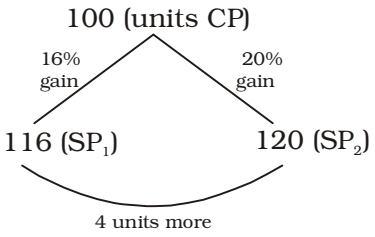
22 unit = 33

1 unit = $\frac{3}{2}$

100 units = $\frac{3}{2}\times100 = 150$

$\therefore$ CP = 150

119. (a) Let CP of Article = 100 units



4 units = 200

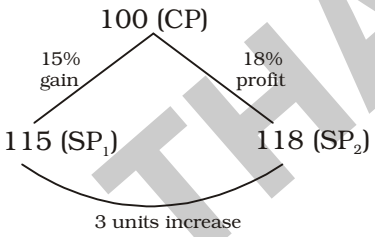
1 unit = $\frac{200}{4}$

100 units = $\frac{200}{4}\times100 = 5000$

CP = Rs. 5000

120. (c) Let CP of the article = Rs. 100

According to question,



3 units = 18

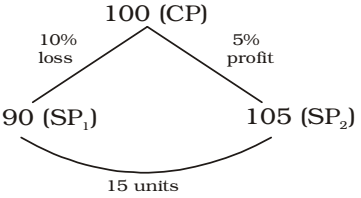
1 unit = $\frac{18}{3}$

100 units = $\frac{18}{3}\times100 = 600$

$\therefore$ CP of the article = Rs. 600

121. (a) Let CP of the article = 100

According to question,



15 units = 45

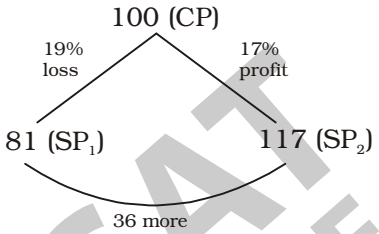
1 unit = $\frac{45}{15}$

100 units = $\frac{45}{15}\times100 = 300$

CP of the article = **Rs. 300**

122. (b) Let CP of the article = 100

According to question,



36 units = 162

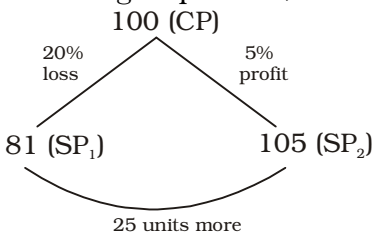
1 unit = $\frac{162}{36}$

100 units = $\frac{162}{36}\times100 = 450$

CP of the article = **Rs. 450**

123. (c) CP of the article = 100

According to question,



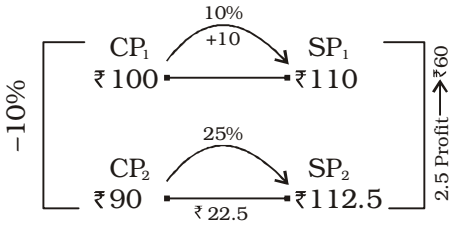
25 units = 100

1 unit = $\frac{100}{25}$

100 units = $\frac{100}{25}\times100 = 400$

CP = **Rs. 400 Ans.**

124. (a) According to the question,



$\therefore$ 2.5 units 60

1 unit ..... $\frac{60}{2.5} = 24$

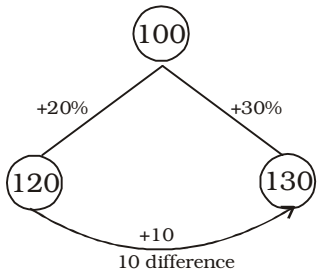
Therefore, C.P of bicycle = 100 units

= 100 × 24

C.P. = **Rs. 2400**

125. (a) Let the C.P. of the ratio

According to the question,



10 units ⟶ 60

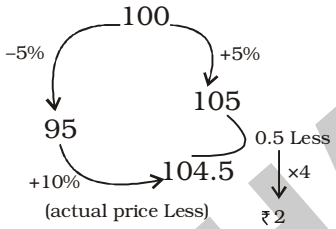
1 unit 6 ⟶

100 units ⟶ 6 × 100 = 600

∴ Cost price of the ratio (रेडियो का क्रय मूल्य)

₹ 6,00

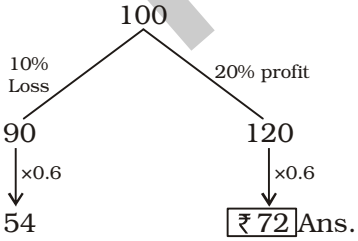
126. (b) Let CP = 100



C.P of the article = 100 × 4

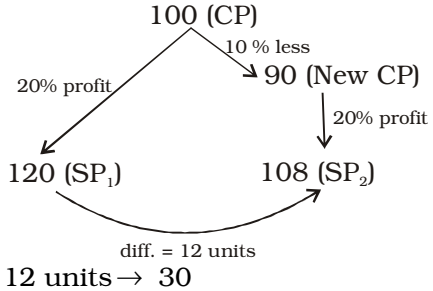
= Rs. 400

127. (a)



128. (b) Let CP of the watch = 100

According to the question,



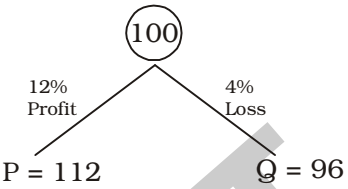
12 units → 30

1 unit → $\frac{30}{12}$

100 units → $\frac{30}{12} \times 100 = 250$

CP of the watch = Rs. 250

129. (b) Let CP = 100



$\frac{Q}{P} = \frac{96}{112} = \frac{6}{7}$

130. (b) ∴ profit 25% = $\frac{1}{4}$

Let CP = 4, profit = 1,

SP = 4 + 1 = 5

If selling price is doubled (विक्रय मूल्य दोगुना करने पर)

new SP

= 5 × 2 = 10

⇒ CP = 4, SP = 10

⇒ profit = 10 – 4 = 6 units

⇒ profit% will = $\frac{6}{4} \times 100\%$

= **150%**

131. (d) CP = ₹1500

Profit after selling (बेचने के बाद लाभ)

= 25% of 1500 = ₹ 300

Net profit (परिणामी लाभ)

= ₹ 375 – ₹ 75 = ₹ 300

Net profit% = $\frac{300}{1500} \times 100 = 20\%$

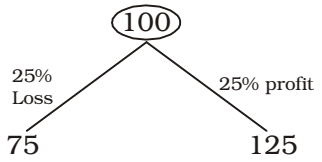
132. (d) (at 25% loss) SP = 720

$CP = 720 \times \frac{100}{75}$ ₹ = 96

(at 25% gain)$SP = 960 \times \frac{125}{100}$

= ₹1200

Alternate:



75 units = 720

1 unit = $\frac{720}{75}$

125 units = $\frac{720}{75} \times 125 = 1200$

133. (a) For gaining 20% it should be sell for (20% लाभ के लिए विक्रय मूल्य)

= $\frac{450}{80\%} \times 120\% =$ **Rs. 675**

134. (b) 20% loss → 5% profit

Increase by 25%

25% = 200

1% = $\frac{200}{25}$

CP = 100% = $\frac{200}{25} \times 100$

= Rs. 800

135. (b) S.P of goods = Rs. 31

C.P of goods = $31 \times \frac{100}{93}$

= Rs. $\frac{100}{3}$

Profit % = $\frac{35 - \frac{100}{3}}{\frac{100}{3}} \times 100$

= $\frac{\frac{5}{3}}{\frac{100}{3}} \times 100 = 5\%$

136. (d) According to question,

Let CP of the article is

(माना कि वस्तु का क्रय मूल्य) = Rs. 100

MP is 10% high of CP mean

(अंकित मूल्य क्रय मूल्य से 10% अधिक है) = Rs. 110

Discount always given on Marked Price

(छूट हमेशा अंकित मूल्य पर दिया जाता है)

10% discount of MP means

(अंकित मूल्य पर 10% छूट) = $\frac{10}{100} \times 110 =$ Rs.11

∴ SP = MP – Discount

SP = 110 – 11 = Rs. 99

∴ Loss% = $\frac{CP - SP}{CP} \times 100$

= $\frac{100 - 99}{100} \times 100 = \frac{1}{100} \times 100 =$ **1%**

137. (c) According to question,

$\frac{CP}{SP} = \frac{100}{120}$ → 20% profit

$\frac{MP}{SP} = \frac{100}{90}$ → 10% Discount

$\frac{CP}{SP} = \frac{100}{120} = \frac{5}{6}, \frac{MP}{SP} = \frac{100}{90} = \frac{10}{9}$

$\frac{CP}{SP} = \frac{5}{6}, \frac{MP}{SP} = \frac{10}{9}$

∴ CP SP MP

45 54 60

9 units profit

9 units → 7500

1 unit → $\frac{7500}{9}$

60 units → $\frac{7500}{9} \times 60 = 50{,}000$

MP = Rs. 50000

138. (d) According to question,

CP	:	MP
(100 – Discount)	:	(100 + profit)
100 – 10	:	100 +12
90	:	112
45	**:**	**56 Ans.**

139. (b) According to question,

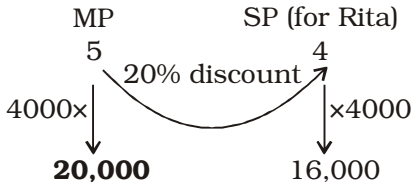
CP	:	MP
(100 – Discount)	:	(100 + profit)
100 – 15	:	100 +19

85 : 119

34 unit more

$$\text{Raised\%} = \frac{34}{85} \times 100 = \textbf{40\%}$$

140. (b) According to question,
Rita, SP of TV = 16800
Profit = 800
CP = SP – Profit
= 16800 – 800 = Rs. 16000
Now given 20% Discount on the labelled price (अंकित मूल्य पर 20% छूट दिया गया)



MP = Rs. 20000

141. (d) In this type of question go through option (इस प्रकार के प्रश्नों में विकल्पों को ध्यान से देखें),
SP = Rs. 39
Option (d)
CP = Rs. 30
Profit% = 30%

$$SP = 30 + \frac{30}{100} \times 30 = 30 + 9$$

SP = **39 (Satisfied)**

142. (a) According to question,

CP	:	MP
(100 – Discount)	:	(100 + profit)
100 – 10	:	100 +12.5
90 unit		112.5 units

90 unit → 800

$$1 \text{ unit} \rightarrow \frac{800}{90}$$

$$112.5 \text{ units} \rightarrow \frac{800}{90} \times \frac{1125}{10} = 1000$$

∴ MP = **Rs. 1000 Ans.**

143. (d) According to question,

$$\frac{MP}{SP} = \frac{100}{77} \Rightarrow 23\% \text{ discount}$$

$$\frac{CP}{SP} = \frac{10}{11} \Rightarrow 10\% \text{ profit}$$

to make SP same

∴ CP	SP	MP
770	847	1100

77 unit profit

77 units → 56

$$1 \text{ unit} \rightarrow \frac{56}{77} = \frac{8}{11}$$

$$1100 \text{ units} \rightarrow \frac{8}{11} \times 1100 = 800$$

MP = Rs. 800

144. (b) According to question,
Marked Price (अंकित मूल्य) = Rs. 300
As we know that (हम जानते है कि),
Marked Price is 50% above the CP
(अंकित मूल्य क्रय मूल्य से 50 प्रतिशत अधिक है)
∴ Cost Price = Rs. 200
Option:- (b)
Original Selling Price = Rs. 250
Profit = SP – CP
= 250 – 200 = Rs. 50
Now SP increase 20%
New SP = Rs. 300
Profit = 300 – 200 = Rs. 100
Now Profit become double Rs. 50 to Rs. 100 (नया लाभ दुगुना होकर 50 रुपये से 100 रुपये हो गया।)

145. (c) $20\% = \frac{1}{5}$ Dis. / M.P

MP	SP	
5	4	(after discount)
5 ⇒	150	
1 ⇒	30	

SP = 4 × 30 = Rs. 120

146. (d) According to question,

$$\frac{CP}{MP} = \frac{5}{6} \Rightarrow 20\% \text{ profit}$$

$$\frac{CP}{SP} = \frac{25}{27} \Rightarrow 8\% \text{ profit}$$

To make CP same

CP	SP	MP
125	135	150

10% discount

147. (d) Let CP 100
MP = 120% of CP
Profit = 8%
SP = 108
So discount is = 120 – 108 = 12

$$\frac{12}{120}\times 100 = 10\%$$

148. (a) According to question,

CP	:	MP
(100 – Discount)	:	(100 + profit%)
100 – 12	:	100 + 32

88 : 132

44 units hike

$$\text{Hike\%} = \frac{44}{88}\times 100 = 50\%$$

149. (a) According to question,

CP	:	MP
(100 – Discount%)	:	(100 + profit%)
100 – 12	:	100 + 10

88 $\xrightarrow{\times\frac{1915}{22}}$ Rs. 7660 (Given CP) : 110 $\xrightarrow{\times\frac{1915}{22}}$ Rs. 9575 (Given MP)

150. (a) According to question,
CP of 2000 books are = Rs. 70,000

$$\text{CP of 1 book is} = \frac{70000}{2000} = \text{Rs. } 35$$

Marked Price of 1 book = Rs. 75
Discount = 30%
Selling Price of 1 book = Rs. 52.5
Discount = 75 – 52.5 = Rs. 22.5

$$\text{Discount} = \frac{22.5}{75}\times 100 = 30\%$$

He distribute 400 books free
(उसने 400 किताबें मुफ्त में बांट दी)
∴SP of 1600 books = 52.5 × 1600
= Rs. 84000
Profit = SP – CP
= 84000 – 70000
= Rs. 14000

$$\text{Profit\%} = \frac{14000}{70000}\times 100$$

= **20% gain**