

# QUANTITATIVE APTITUDE PROFIT AND LOSS





## Quantitative Aptitude

**Quantitative Aptitude** is an important and highly scoring topic in **Competitive Exams** especially in **Bank Exams**. Quantitative Aptitude or Data Interpretation based questions are structured assessments that evaluate the talent and skills of the Candidates. It measures the problem-solving skills of the candidates so it has become an important part of Bank Exams.

Every bank exam includes Quantitative Aptitude in their Prelim and Mains Exams. Banks like **SBI, IBPS (for Clerk & PO), IBPS RRB and RBI Grade B** includes Quantitative Aptitude in their syllabus to examine the candidates' **Thinking power**. To understand the importance of Quantitative Aptitude let us have a look at the weightage of this topic in different banking exams.

### Prelims and Mains Syllabus for Bank Exams

Prelims Syllabus	Mains Syllabus
<ul style="list-style-type: none"><li>◆ Number Series</li><li>◆ Data Interpretation</li><li>◆ Simplification/Approximation</li><li>◆ Quadratic Equation</li><li>◆ Data Sufficiency</li><li>◆ Mensuration</li><li>◆ Average</li><li>◆ Profit and Loss</li><li>◆ Ratio and Proportion</li><li>◆ Time and Work</li><li>◆ Time and Distance</li><li>◆ Probability</li><li>◆ Partnership</li><li>◆ Problem on Ages</li><li>◆ Simple and Compound Interest</li><li>◆ Permutation and Combination</li></ul>	<ul style="list-style-type: none"><li>◆ Simplification</li><li>◆ Average</li><li>◆ Percentage</li><li>◆ Ratio and Percentage</li><li>◆ Data Interpretation</li><li>◆ Mensuration and Geometry</li><li>◆ Quadratic Equation</li><li>◆ Interest</li><li>◆ Problems of Ages</li><li>◆ Profit and Loss</li><li>◆ Number Series</li><li>◆ Speed, Distance and Time</li><li>◆ Time and Work</li><li>◆ Number System</li><li>◆ Data Sufficiency</li><li>◆ Linear Equation</li><li>◆ Permutation and Combination</li><li>◆ Probability</li><li>◆ Mixture and Allegations</li></ul>



## Quantitative Aptitude - Profit and Loss

**Profit (P):** When selling price is greater than the cost price then the seller is said to have profit. Profit is also known as gain.

**Loss (L):** When selling price is less than the cost price then the seller is said to have loss.

**Selling price (S.P.):** The price, at which a store sells the goods, is called its selling price.

**Cost price (C.P.):** The price, at which a store owner purchases goods, is called its cost price.

**Take a scenario to have detailed explanation about profit, loss, selling price, and cost price:**

Consider a shopkeeper. To sell something, the person needs to have something in the shop. So, for example the person bought soap with some cost price of 5 rupees from a whole sale dealer. Now, a customer comes to buy soap and the person had to sell it for at least 6 rupees. One rupee extra is profit. Suppose if the person sells it for 4 rupees then loss of one rupee incurs. Therefore, if selling price is more than it is profit and if cost price is more than it is loss.

### Note:

- Both profit and loss calculations are based on “cost price”.
- Always cost price is fixed and selling price is variable.

### Important Formulas:

- **Profit = Selling price (S.P.) – Cost price (C.P.)**
- **Loss = Cost price (C.P.) – Selling price (S.P.)**
- **Gain % =  $\left(\frac{\text{Gain} \times 100}{\text{C.P.}}\right)$**
- **Loss% =  $\left(\frac{\text{loss} \times 100}{\text{C.P.}}\right)$**
- **S.P. =  $\frac{(100 + \text{Gain}\%)}{100} \times \text{C.P.}$ , S.P =  $\frac{(100 - \text{Loss}\%)}{100} \times \text{C.P.}$**
- **C.P =  $\frac{100}{(100 + \text{Gain}\%)} \times \text{S.P.}$ , C.P =  $\frac{100}{(100 - \text{Loss}\%)} \times \text{S.P.}$**
- **When a person sells two similar items, one at a gain of say, x%, and the other at a loss of x%, then the seller always incurs a loss given by:**

$$\text{Loss\%} = \left(\frac{\text{Common loss and Gain}\%}{10}\right)^2 = \left(\frac{x}{10}\right)^2$$



## Profit and Loss Questions with Explanations

1. A manufacture undertakes to supply 2000 pieces of a particular component at Rs.25 per piece. According to his estimates, even if 5% fail to pass the quality tests, then he will make a profit of 25%. However as it turned out, 50% of the components were rejected. What is the loss to the manufacture?

- A. Rs 12,000
- B. Rs 13,000
- C. Rs 14,000
- D. Rs 15,000

Answer: B

Explanation: 5% of 2000=100 so 2000 – 100=1900 so,if he sells 1900, he will get 25% profit

Cost per piece Rs 25.....so 25x 1900 don't solve here

If 125%.....25x1900

100 %.....?

$$? = \frac{25 \times 1900 \times 100}{125} = 38000 = \text{CP}$$

If 50% rejected, only 1000 pieces sold

$$\text{So } 1000 \times 25 = 25000 = \text{SP}$$

$$\text{Loss} = \text{CP} - \text{SP} = 38000 - 25000 = 13000$$



2. Shan bought 30 liters of milk at the rate of Rs.8 per liter. He got it churned after spending Rs.10 and 5kg of cream and 30 liter of toned milk were obtained. If he sold the cream at Rs.30 per kg and toned milk at Rs.4 per liter, his profit in the transaction is:

- A. 20%
- B. 8%
- C. 30%
- D. 40%

Answer: B

Explanation: CP =Rs. (30 x 8 + 10) = Rs.250

$$\text{SP} = \text{Rs. } (30 \times 5 + 30 \times 4) = \text{Rs.270}$$

$$\text{Gain\%} = \left( \frac{20}{250} \times 100 \right) \% = 8\%$$



3. The sale price of an article including the sale tax is Rs. 616. The rate of sale tax is 10%. If the shopkeeper has made a profit of 12%, the cost price of the article is [The Pearson Guide book]

- A. Rs 500
- B. Rs 515
- C. Rs 550
- D. Rs 600

Answer: A

Explanation: 110% of S.P. = 616

$$= \text{S.P.} = \left( \text{Rs. } \frac{616 \times 100}{110} \right) = \text{Rs. } 560.$$

$$\text{C.P.} = \text{Rs. } \left( \frac{100}{112} \times 560 \right)$$

$$= \text{Rs. } 500$$

4. When an article is sold for Rs.3400, there is a loss of 2%. What is the cost price of the commodity?

- A. Rs 3500.50
- B. Rs 3200
- C. Rs 3400.56
- D. Rs 3469.34

Answer: D

Explanation: loss = 2% so,

$$98\% \dots\dots\dots 3400$$

$$100\% \dots\dots\dots ?$$

$$? = \frac{(3400 \times 100)}{98} = 3469.34$$



5. The marked price of a watch was Rs. 720. A man brought the same for Rs.550.80 after getting two successive discounts the first being 10% .What was the second discount rate?

- A. 12%
- B. 14%
- C. 15%
- D. 18%

Answer: C

Explanation: Let the second discount rate be x% Then,

$$(100 - X)\% \text{ of } 90\% \text{ of } 720 = 550.80$$



$$\frac{(100 - x)}{\frac{100 \times 90}{100 \times 720}} = 550.80$$

$$= (100 - x) = \left[ \frac{5080}{(9 \times 72)} \right] = 85$$

$$x = 15$$

Second discount rate = 15%

**6. Jagdeep bought a refrigerator with 20% discount on the labeled price. Had he bought at it with 30% discount, he would have saved Rs. 500 more. At what price did he buy the refrigerator?**

- A. Rs 5000
- B. Rs 10,000
- C. Rs 12,500
- D. Rs 15,000

**Answer:** A

**Explanation:** Let the labeled price be Rs. x Then,

$$(80\% \text{ of } x) - (70\% \text{ of } x) = 500$$

$$10\% \text{ of } x = 500$$

$$10\% \dots \dots \dots 500$$

$$100\% \dots \dots \dots ?? = \left( \frac{500 \times 100}{10} \right) = 5000 = x$$

**7. If the S.P of Rs.40 results in a 20% discount on list price. What S.P would result in a 30% discount on list price?**

- A. Rs 18
- B. Rs 20
- C. Rs 35
- D. Rs 27

**Answer:** C

**Explanation:** Let the list price be Rs. x

$$\frac{80}{100x} = 40$$

$$\rightarrow x = \frac{40 \times 100}{80} = 50$$

$\therefore$  Required S.P. = 70% of Rs. 50 = Rs. 35



**8. A discount of 25% on one article is same as a discount of 50% on another article .The costs of two articles can be:**

- A. Rs 30, Rs 20
- B. Rs 90, Rs 40
- C. Rs 80, Rs 40
- D. Rs 50, Rs 40

**Answer:** C

**Explanation:** Let the costs of the two articles be x and y. Then,

25% of x = 50% of y

$$\frac{X}{Y} = \frac{50}{25} = \frac{2}{1}$$

So, x and y must be in the ratio of 2:1

**9. An article is listed at Rs. 2000 and a discount of 20% is offered on the list price .What additional discount must be offered to the customer bring the net price to Rs. 1400?**

- A. 12.5%
- B. 10%
- C. 12%
- D. 15%

**Answer:** A

**Explanation:** S.P after 1st discount,

100%.....2000

80%.....?

$$? = \frac{2000 \times 80}{100} = 1600$$

Net S.P = Rs. 1400.

Discount on Rs. 1600 = Rs. 200.

$$\therefore \text{Required discount} = \left( \frac{200}{1600} \times 100 \right) \% = 12.5\%$$

**10. A shopkeeper gives 12% additional discount on the discounted price, after giving an initial discount of 20% on the labeled price of a mobile. If the final sale price of the mobile is 704. Then what is its labeled price?**

- A. Rs 844
- B. Rs 920



- C. Rs 1000
- D. Rs 1100

Answer: C

Explanation: Let the labeled price be Rs. x

88% of 80% of x = 704

$$\rightarrow x = \left( \frac{704 \times 100 \times 100}{88 \times 80} \right) = 1000.$$

**11. The difference between the cost price and sale price of an article is Rs. 500 if the profit is 20%. The selling price is:**

- A. Rs 4000
- B. Rs 1500
- C. Rs 3000
- D. Rs 3300

Answer: C

Explanation: 120%-100%=20%

20%.....500

120%.....?

?= 3000

**12. A dealer sold a Radio at a loss of 2.5%. Had he sold it for Rs. 100 more, he would have gained 7.5%. To gain 12.5% he should sell it for:**

- A. Rs 2200
- B. Rs 1000
- C. Rs 1100
- D. Rs 1125

Answer: D

Explanation: Let C.P be Rs.x then, (107.5 % of x) – (97.5 % of x) = 100

=> 10% of x = 100

=> x = 1000

∴ desired S.P = 112.5 % of Rs. 100

$$= \text{Rs.} \left( \frac{225}{2} \times \frac{1}{100} \times 1000 \right) = \text{Rs. 1125}$$





**13. The cash difference between the selling price of an article at a profit of 8% and 4% is Rs 3 the ratio of the two selling price is**

- A. 51 : 52
- B. 27 : 26
- C. 51 : 53
- D. 52 : 55

**Answer:** B

**Explanation:** Let the C.P of the article be Rs. x

Then required ratio = 108% of x / 104% of x

$$= \frac{108}{104} = 27:26$$

**14. A man sells two flats at the rate of Rs. 2 lakhs each. On one he gains 3% and on the other, he loses 3%. His gain or loss % in the whole transaction is**

- A. 9% loss
- B. 2% loss
- C. 3% loss
- D. 25% loss

**Answer:** A

**Explanation:** Loss% =  $\frac{x^2}{100} = \frac{3^2}{100}\% = 0.09\%$

**15. A man sells two flats for Rs. 8000 each. Neither loosing nor gaining in the deal. If he sold one at a gain of 25%, the other commodity sold at a loss of:**

- A.  $\frac{50}{3}\%$
- B.  $\frac{18}{3}\%$
- C. 25%
- D. 32%

**Answer:** A

**Explanation:** Total S.P = 16000 Rs. and Total C.P = 16000 Rs.

S.P. of 1st = Rs. 8000. Gain on it = 25%

C.P of 1st = Rs.  $(\frac{100}{125} \times 8000) = \text{Rs.} 6400$

C.P of 2nd = Rs,  $(16000 - 6400) = \text{Rs.} 9600$ .

S.P of 2nd = 8000.



$$\therefore \text{Loss on 2nd commodity} = \left(\frac{1600}{9600} \times 100\right)\% = \frac{50}{3}\%$$

**16. A house and shop were sold for Rs. 1 lakh each. In this transaction the house sell resulted into 20% loss whereas the shop sell resulted into 20% of profit. The entire transaction resulted in:**

- A. no loss no gain
- B. loss of Rs 1/12 lakh
- C. loss of Rs 4lakh
- D. gain of Rs 6lakh

**Answer:** B

**Explanation:** Total S.P = Rs. 2 lakh.

$$\text{C.P of house} = \text{Rs. } \left(\frac{100}{80} \times 1\right) \text{lakh} = \text{Rs. } \frac{5}{4} \text{ lakh}$$

$$\text{C.P of shop} = \text{Rs. } \left(\frac{100}{120} \times 1\right) \text{lakh} = \text{Rs. } \frac{5}{6} \text{ lakh}$$

$$\text{Total C.P} = \text{Rs. } \left(\frac{5}{4} + \frac{5}{6}\right) \text{lakh} = \text{Rs. } \frac{25}{12} \text{ lakh}$$

$$\therefore \text{Loss} = \text{Rs. } \left(\frac{25}{12} - 2\right) \text{lakh} = \text{Rs. } \frac{1}{12} \text{ lakh.}$$

**17. Reshma purchased 120 chairs at price of Rs. 110 per chair. He sold 30 chairs at a profit of Rs. 12 per chair and 75 chairs at profit of Rs. 14 per chairs. The remaining chairs were sold at a loss of Rs. 7 per chairs. What is the average profit per table?**

- A. Rs 10.56
- B. Rs 10.87
- C. Rs 12.123
- D. Rs 12.67

**Answer:** B

**Explanation:** Total C.P = Rs. (120 x 110) = Rs. 13200.

$$\begin{aligned} \text{Total S.P} &= \text{Rs. } [(30 \times 110 + 30 \times 12) + (75 \times 110 + 75 \times 14) + (15 \times 110 - 15 \times 7)] \\ &= \text{Rs. } 14505 \end{aligned}$$

$$\text{Average profit} = \text{Rs. } \left(\frac{14505 - 13200}{120}\right) = \text{Rs. } \frac{1305}{120} = 10.875$$

**18. Hemant sold 10 sarees for a total profit of Rs. 460 and 12 sarees for a total profit of Rs. 144. At what profit per saree should he sell the remaining 20 sarees so that he gets an average profit of Rs. 18 per sarees?**

- A. Rs 7.10
- B. Rs 7.60



- C. Rs 7.99
- D. Rs 8

Answer: B

Explanation: Total profit required = Rs. (42 x 18) = Rs. 756

Profit on 22 sarees = Rs. (460 + 144) = Rs. 604

Profit on 20 sarees = Rs. (756 – 604) = Rs. 152

Average profit on these sarees = Rs.  $(\frac{152}{20})$  = Rs. 7.60

**19. Sanki purchased 20 dozen notebook at Rs. 48 per dozen. He sold 8 dozen at 10% profit and remaining 12 dozen with 20% profit. What is his profit percentage in the transaction?**

- A. 8%
- B. 15%
- C. 16%
- D. 19%

Answer: C

Explanation: C.P of 20 dozen = Rs. (48 x 20) = Rs. 960

C.P of 8 dozen = Rs. (48 x 8) = Rs. 384.

C.P of 12 dozen = Rs. (960 – 384) = Rs. 576

Total S.P = Rs.  $(\frac{110}{100} \times 384 + \frac{120}{100} \times 576)$  = Rs. 1113.60

$\therefore$  Profit % =  $(\frac{153.60}{960} \times 100)\%$  = 16%

**20. A man purchased wheat worth Rs. 400. He sold  $\frac{3}{4}$  at a loss of 10% and the remainder at a gain of 10%. On the whole he gets:**

- A. loss of 5%
- B. gain of 5
- C. loss of 19%
- D. loss of 6%

Answer: A

Explanation: C.P of  $\frac{3}{4}$  = Rs.  $(\frac{3}{4} \times 400)$  = Rs. 300,

C.P of  $\frac{1}{4}$  = Rs. 100

$\therefore$  Total S.P = (90% of Rs. 300 + 110% of Rs. 100) = Rs. 380



$$\text{Loss} = \left(\frac{20}{400} \times 100\right)\% = 5\%$$

**21. Reema buys dress for 10% less than its value and sells it for 10% more than its value. His gain or loss percent is:**

- A. no profit, no loss
- B. 20% profit
- C. less than 20% profit
- D. more than 20% profit

**Answer:** D

**Explanation:** Let the article be worth Rs. x.

$$\text{C.P.} = 90\% \text{ of Rs. } x = \text{Rs. } \left(\frac{9}{10}\right) \times \text{S.P.} = 110\% \text{ of Rs. } x = \text{Rs. } \left(\frac{11}{10}\right)x$$

$$\text{Gain} = \text{Rs. } \frac{11}{10}x - \frac{9}{10}x = \left(\frac{1}{5}\right)x$$

$$\text{Gain \%} = \left(\frac{\frac{1}{5}x}{\frac{9}{10}x}\right) \times 100 = 44.44\% > 20\%$$

**22. A retailer buys 40 pens at the marked price of 36 pens from a wholesaler. If he sells these pens giving a discount of 1%, what is the profit percent?**

- A. 10%
- B. 22%
- C. 25%
- D. 26%

**Answer:** A

**Explanation:** Let the marked price of each pen be Re. 1.

Then, C.P. of 40 pens = Rs. 36.

S.P. of 40 pens = 99% of Rs. 40 = Rs. 39.60.

$$\therefore \text{Profit\%} = \left[\frac{3.60}{36} \times 100\right]\% = 10\%.$$

**23. Jimmy bought 25 apples for Rs.10 and sold them at the rate of 24 apples for Rs.12. What is the percentage of profit made by him?**

- A. 25%
- B. 70%
- C. 60%
- D. 100%

**Answer:** A



**Explanation:** CP of 1 apple =  $\frac{10}{25} = \frac{2}{5}$

SP of 1 apple =  $\frac{12}{24} = \frac{1}{2}$

Profit =  $\frac{1}{2} - \frac{2}{5} = \frac{1}{10}$

% =  $\left[\frac{\frac{1}{10}}{\frac{2}{5}}\right] \times 100 = 25\%$

**24. 60% loss on cost price is what percent loss on selling price?**

- A. 28
- B. 38 %
- C. 40
- D. 150%

**Answer:** D

**Explanation:** Loss = 60% on CP i.e., 0.6CP

→ SP = 0.4CP Loss % on SP =  $\frac{\text{Loss}}{\text{SP}} \times 100$

=  $\frac{0.6 \text{ CP}}{0.4 \text{ CP}} \times 100 = 150\%$ .

**25. A person, by selling an article at half of the list price incurs a loss of 20%. Find the profit percentage if he sells at the list price?**

- A. 25%
- B. 60%
- C. 5%
- D. 30 %

**Answer:** B

**Explanation:** Explanation – 0.50 MP = 0.8 CP (since 20% loss)

So, MP = 160CP → 60% gain.

**26. The marked price of a sofa is 11,500. The shopkeeper sold it by allowing 18% discount on the market price and earned 15% profit. What is the cost price of the sofa?**

- A. 8000
- B. 8100
- C. 8200
- D. 8400

**Answer:** C



**Explanation:**  $11500 \times \left(\frac{82}{100}\right) \times \left(\frac{100}{115}\right) = 8200$

**27. The ratio of the cost price to the marked price of the furniture is 3:5 and ratio of percentage profit to the percentage discount is 5:3. What is the discount percentage?**

- A. 3.33
- B. 6.66
- C. 15.15
- D. 9.99

**Answer:** D

**Explanation:** CP: MP = 3: 5

P: D = 5:3

Let CP = 300; MP = 500

$$\left(\frac{5X}{100}\right) \times 300 + \left(\frac{3X}{100}\right) \times 500 = 100$$

$$15X + 15X = 100$$

$$X = \left(\frac{100}{30}\right) = 3.33$$

$$\text{Discount} = 3 \times 3.33 = 9.99$$

**28. A shopkeeper expects the gain of 19% on his cost price. If in a week his sale was of Rs.462, What was his profit?**

- A. 73
- B. 73.77
- C. 73.50
- D. 74

**Answer:** B

**Explanation:** CP =  $\left(\frac{100}{119}\right) \times 462 = 388.23$

$$P = 462 - 388.23 = 73.77$$

**29. Prakash bought a bike at 20% discount on its original price. He sold it with 30% increase on the price he bought it. The new sale price is by what percent more than the original price?**

- A. 4%
- B. 5%
- C. 10%
- D. 22%



**Answer:** A

**Explanation:** Let original price = Rs.100

20% discount = Rs.20

CP = 80

$$SP = \left(\frac{130}{100}\right) \times 80 = 104$$

Percentage =  $(104 - 100) \% = 4\%$

**30. Shopkeeper marked the selling price of an article at 12% above the cost price. At the time of selling, he allows certain discount and suffers a loss of 2%. Find the discount percentage**

- A. 12%
- B. 12.25%
- C. 12.5%
- D. 13%

**Answer:** C

**Explanation:** Let CP = 100

MP = 112

SP = 98

$$\text{Discount percentage} = \left(\frac{112 - 98}{112}\right) \times 100 = \left(\frac{14}{112}\right) \times 100 = 12.5\%$$

**31. A Grinder is listed at Rs.1200 and a discount of 25% is offered on the list price. What additional discount must be offered to the customer to bring the net price to Rs. 990?**

- A. 10%
- B. 12%
- C. 15%
- D. 20%

**Answer:** A

**Explanation:** SP after 1st discount =  $\left[\left(\frac{75}{100}\right) \times 1200\right] = \text{Rs.}900$

Net SP = Rs.990

Discount on Rs.900 =  $990 - 900 = \text{Rs.}90$

Required discount =  $\left[\left(\frac{90}{900}\right) \times 100\right] = 10\%$



**32. A sales man sells 2 watches for Rs.460 each. On one he gets 15% profit and on the other 15% loss. His profit or loss in the entire transaction was**

- A.  $2\left(\frac{4}{6}\right)\%$
- B.  $2\left(\frac{1}{4}\right)\%$
- C.  $2\left(\frac{3}{4}\right)\%$
- D.  $2\left(\frac{7}{4}\right)\%$

**Answer:** B

**Explanation:** Loss =  $\left(\frac{15}{10}\right)^2 = \frac{225}{100} = \frac{9}{4} = 2\left(\frac{1}{4}\right)\%$

**33. A shopkeeper takes 12% profit on his goods. He lost 22% goods during theft. His loss percentage is**

- A. 12.56
- B. 12.55
- C. 12.64
- D. 12.60

**Answer:** C

**Explanation:** Let no of goods = 100

CP of each item Rs.1 then total cost = Rs.100

No of item theft = 22

Remaining item = 78

Profit 12%, SP = 1.12 each item

Total sale =  $78 \times 1.12 = 87.36$

Loss =  $100 - 87.36 = 12.64$

**34. The difference the cost price and selling price of the book is Rs.260 .If the profit is 25%, then the selling price is**

- A. 1100
- B. 1200
- C. 1250
- D. 1300

**Answer:** D

**Explanation:** SP = 125% of Rs. x =  $\left(x \times \frac{125}{100} = \frac{5X}{4}\right)$





$$\left(\frac{5X}{4}\right) - x = 260$$

$$X = (260 \times 4) = 1040$$

$$SP = \left(\frac{1040 \times 5}{4}\right) = 1300$$

**35. The CP of 18 articles is equal to SP 15 articles. Find the gain or loss**

- A. 15%
- B. 18%
- C. 20%
- D. 22%

**Answer:** C

**Explanation:** CP of each article = Rs.1

CP of 18 articles = Rs.18

SP of 15 articles = Rs. 18

$$\text{Gain} = \left(\frac{3}{15}\right) \times 100 = 20\%$$

**36. A vendor loses the selling price of 4 apples on selling 36 apples. His loss percent is**

- A.  $12\frac{1}{2}\%$
- B.  $11\frac{1}{2}\%$
- C. 10%
- D. 9%

**Answer:** C

**Explanation:** Selling price of 36 apples = Rs.36

Selling price of 4 oranges = Rs.4

Loss = 4

Cost price = 36+4 = 40

$$\text{Loss \%} = \left(\frac{4}{40}\right) \times 100 = 10\%$$

**37. By selling 15 oranges, a fruit seller gains the selling price of 1 orange. Calculate his gain percentage**

- A. 7.14%
- B. 6.14%
- C. 8%
- D. 8.41%



**Answer:** A

**Explanation:** SP of 1 orange = 1

SP of 15 orange = 15

Profit = 1

CP = 15 - 1 = 14

Profit % =  $(\frac{1}{14}) \times 100 = 7.14\%$

**38. A person sold a Tubelight at Rs.85.25 in such a way that his percentage profit is the same as the cost price of the Tubelight. If he sells it at twice the percentage profit of his previous percentage of the profit then the new selling price will be**

- A. Rs. 110.5
- B. Rs.115.05
- C. Rs.115.5
- D. Rs.110.05

**Answer:** C

**Explanation:** Cp = x

$$Sp = x + \left(\frac{x^2}{100}\right) = 85.25$$

$$x^2 + 100x - 8525 = 0$$

$$(x+155)(x-55) = 0$$

$$x = 55$$

$$\text{Now SP} = 55 + \frac{(55 \times 110)}{100} = 55 + 60.50 = 115.5$$

**39. A dealer sold 575 cement packages at a profit of 9%. If one cement package cost Rs.2400, Find his total profit?**

- A. 124100
- B. 124200
- C. 124000
- D. 123200

**Answer:** B

**Explanation:** CP = 575 × 2400 = 1380000

$$P = 9\%$$





$$P = \frac{(1380000 \times 9)}{100} = 124200$$

**40. What profit or loss percentage did Harini earn if she purchased an item Rs.5000 and sold it three – fourth of its cost price?**

- A. 21%
- B. 22%
- C. 25%
- D. 20%

**Answer:** C

**Explanation:** Cp = 5000

$$Sp = \frac{3}{4}(5000) = 3750$$

$$\text{Loss} = 1250$$

$$\text{Loss \%} = \frac{(1250 \times 100)}{5000} = 25\%$$

**41. The ratio of the cost price to the marked price of a watch is 3:5 and ratio of the percentage profit to the percentage discount is 5:3. Find the profit percentage?**

- A. 13.34%
- B. 16.65%
- C. 16.43%
- D. 17.5%

**Answer:** B

**Explanation:** Cp:mp = 3x:5x = 300 : 500

$$\text{Profit} = 2x$$

$$P: d = 5:3$$

$$\frac{(5x \times 300)}{100} + \frac{(3x \times 500)}{100} = 100$$

$$30x = 100$$

$$X = \left(\frac{100}{30}\right) = 3.33\% \rightarrow 5x = 16.65\%$$

**42. A weighting machine of a trader weights 10% less than it should and the trader marks up his goods to get an overall profit of 18%. How much does he mark up on the cost price?**

- A. 6.2%
- B. 6.5%
- C. 6.3%



D. 5.6%

Answer: A

Explanation: Cp = Rs.1 per gram

1000gms → 10% less = 900gms — vales of good sold – x%

$$MP = 1000 + \left(\frac{1000X}{100}\right) = 1000 + 10X$$

$$\% P = \left[\frac{(1000 + 10X - 900)}{900}\right] \times 100$$

$$18 = \frac{(100 + 10x)}{9}$$

$$162 = 100 + 10x$$

$$10x = 62$$

$$X = 6.2\%$$

43. If a clock is sold for Rs.120 there is a loss of 15%. For a profit of 2%, the clock is to be sold for

- A. 141
- B. 142
- C. 143
- D. 144

Answer: D

Explanation SP = 120

Loss = 15%

$$Cp = 120 \times \left(\frac{100}{100 - 15}\right) = \frac{2400}{17} = 141.18$$

$$\text{Profit} = 141.18 \times \left\{\frac{(100 + 2)}{100}\right\} = 144$$

44. A discount of 20% on article A is the same as a discount on 15% on another article B. The cost of the 2 article can be

- A. 33:88
- B. 51:68
- C. 45:63
- D. 14:19

Answer: B

Explanation:  $A \times \left(\frac{20}{100}\right) = 20A$



$$B \times \left(\frac{15}{100}\right) = 15B$$

$$20A = 15B$$

$$\frac{A}{B} = 15:20 \rightarrow 3:4$$

$$3:4 \rightarrow 3 \times 17:4 \times 17 = 51:68$$

**45. The difference in discounts between two successive discounts of 8% each and a single discount of 16% on Rs.2000 is**

- A. 6.4
- B. 4.6
- C. 12.8
- D. 12.6

**Answer:** C

**Explanation:** Two successive discounts of 8% =  $\left[8 + 8 - \left(\frac{8 \times 8}{100}\right)\right]\% = 15.36\%$

$$\text{Diff} = 16 - 15.36 = 0.64\%$$

$$\text{Required diff} = 2000 \times \left(\frac{0.64}{100}\right) = \text{Rs. } 12.8$$

**46. A man purchased some fruits for Rs 1000. He sold  $\frac{2}{5}$  of the fruits worth Rs 400 at 10% profit. At what percent must he sell the rest in order to get 20% profit on the whole?**

- A.  $26\frac{2}{3}\%$
- B. 25%
- C. 30%
- D.  $33\frac{1}{3}\%$

**Answer:** A

$$\text{Explanation: } \frac{2}{5} \times 10 + \frac{3}{5} \times (X) = 20$$

$$X = \frac{80}{3} = 26\frac{2}{3}\%$$

**47. A retailer marked its goods at 50% above the cost price and thinking that he will still make 30% profit, offers a discount of 20% on the marked price. What is the actual profit on the sale?**

- A. 18%
- B. 25%
- C. 20%
- D. 15%



Answer: C

Explanation:  $50 + (-20) + \frac{(50)(-20)}{100} = 20\%$

48. Toffees are bought at 27 for a rupee. How much must be sold for a rupee so as to gain 50%?

- A. 18
- B. 25
- C. 20
- D. None of these

Answer: A

Explanation:  $27 \times \frac{100}{150} = 18$

49. By selling 8 articles, a tradesman makes a loss equal to the cost price of 4 articles. Find loss%.

- A. 25%
- B.  $\frac{100}{3}\%$
- C. 50%
- D. None of these

Answer: C

Explanation: C.P of 8 articles – S.P of 8 articles = C.P of 4 articles

C.P of 4 articles = S.P of 8 articles

Profit% =  $\frac{(8 - 4)}{8} \times 100 = 50\%$



50. Shopkeeper marks his goods at Rs 2,000. Now after allowing a discount of 25%, he gains 50%. Find the cost price of the article.

- A. Rs 1800
- B. Rs 1000
- C. Rs 1500
- D. None of these

Answer: B

Explanation: Use M.P. =  $\frac{(100 + p\%)}{(100 - d\%)} \times \text{C.P.}$

51. Two articles are bought at Rs 800 each. While selling the articles, trader made 10% profit on the first article and 10% loss on the second article. Find the overall profit/loss percent.



- A. 25%
- B.  $\frac{100}{3}\%$
- C. Neither loss nor profit
- D. None of these

Answer: C

**Explanation:** When two articles are bought at same price and sold at equal profit % and loss % respectively, it is neither profit nor loss

**52. A fruit vendor purchased 21 apples for Rs 180.  $33\frac{1}{3}\%$  of the apples were rotten and had to be thrown away. What price should the trader charge per apple if he wants to earn a profit of  $16\frac{2}{3}\%$ ?**

- A. Rs. 28
- B. Rs. 15
- C. Rs. 22
- D. Rs. 25

Answer: B



**Explanation:**  $33\frac{1}{3}\%$  rotten implies  $\frac{100}{3} \times 100 \times 21 = 7$  rotten

14 apples left

For profit of  $16\frac{2}{3}\%$  or  $\frac{50}{3}\%$

S.P. of 14 apples should be  $\frac{(100 + \frac{50}{3})}{100} \times 180 = 210$

**53. By selling an item at  $\frac{7}{10}$ th of the actual selling price, a trader makes a profit of 20%. If he sells the product at 20% less than the actual selling price, then what will be the profit or loss %?**

- A. 30%
- B. 20%
- C.  $37\frac{1}{7}\%$
- D.  $33\frac{1}{3}\%$

Answer: C

**Explanation:** C.P. S.P.

Profit is 20%. So,



$$\frac{(\frac{7}{10} \text{ S.P.} - \text{C.P.})}{\text{C.P.}} \times 100 = 20$$

This gives  $\text{S.P.} = \frac{12}{7} \text{ C.P.}$

Now product sold at 20% less S.P. i.e.  $\frac{80}{100}$  or  $\frac{4}{5}$  of S.P.

$$\frac{\text{Profit}}{\text{loss}\%} = \frac{(\frac{4}{5} \text{ S.P.} - \text{C.P.})}{\text{C.P.}} \times 100$$

Put  $\text{S.P.} = \frac{12}{7} \text{ C.P.}$  and find the final answer

$$= 33 \frac{1}{3} \%$$

**54. Raman bought an item at 20% discount on its original price. He sold it with 40% increase on the price he bought it. The new sale price is by what percent more than the original price?**

- A. 12%
- B. 20%
- C. 15%
- D. 25%

**Answer:** A

**Explanation:**  $40 + (-20) + \frac{(40)(-20)}{100}$

**55. The selling price of an article is marked at 10% above the cost price. At the time of selling, he allows a certain discount and suffers a loss of 1%. He allowed a discount of:**

- A. 20%
- B. 10%
- C. 15%
- D. 25%

**Answer:** B

**Explanation:** Use  $\text{M.P.} = \frac{(100 + p\%)}{(100 - d\%)} \times \text{C.P.}$

$$110/100 \text{ M.P.} = \frac{(100 + 1)}{(100 - d\%)} \times \text{C.P.}$$

Find d%

$$d = 10\%$$

**56. A Shopkeeper blends 2 varieties of tea, one CP is Rs.50 and another one CP is Rs.100 per kg. They were mixed in the ratio 7:2, if he sold the mixed variety at Rs.100 p/kg, how much was his profit percentage?**





- A. 63.54%
- B. 63.63%
- C. 63.36%
- D. 66.36%

Answer: B

Explanation:  $7 \times 50 + 2 \times 100 = 350 + 200 = 550$

$$7 + 2 = 9$$

$$9 \times 100 = 900$$

$$\left[ \frac{900 - 550}{550} \right] \times 100 = 63.63\%$$

57. A boy bought 2 items for Rs.7500. One item he sells at a profit of 16% and other item at 14% loss. In this the boy makes neither any profit nor any loss. What is the difference between SP of 2 items?

- A. 602
- B. 610
- C. 600
- D. 620

Answer: D

Explanation:  $\frac{116X}{100} + \frac{(7500 - X)86}{100} = 7500$

$$116x - 86x - 645000 = 750000$$

$$X = 3500, 7500 - 3500 = 4000$$

$$\frac{3500 \times 116}{100} - \frac{(4000 \times 86)}{100} = 620$$

58. The CP of Desk is Rs.2000. A Salesman wants to make 15% profit by selling it. At the time of sale he declares a discount of 10% on MP. The Marked price is?

- A. 2552
- B. 2554
- C. 2556
- D. 2550

Answer: C

Explanation:  $\frac{90x}{100} = 2000 \times \left( \frac{115}{100} \right)$

$$X = \frac{2000 \times 115}{90} = 2555.5 = 2556$$





59. A man sells an item with a discount of 15% to his customers and still gains 10%. Find the MP of an item which cost Rs.320

- A. 414
- B. 441
- C. 411
- D. 141

Answer: A

Explanation:  $\frac{X \times 85}{100} = \frac{320 \times 110}{100}$

$$X = \frac{320 \times 110}{85} = 414.12$$

60. A shopkeeper sells his goods at 10% profit. If he sells it at 20% profit, he gets Rs.120 more. Find the CP

- A. 1000
- B. 1020
- C. 1100
- D. 1200

Answer: D

Explanation:  $\frac{120 \times 100}{10} = 1200$

61. A man sells 2 books for Rs.450 each at no profit no loss on the whole business. If he earned 20% profit on the 1st item then the loss on the 2nd item will be.

- A. 12.48%
- B. 14.28%
- C. 12.24%
- D. 14.28%

Answer: D

Explanation: SP of 2 items = 450 + 450 = 900

$$\text{CP of 1st item} = \frac{450 \times 100}{120} = 375$$

$$\text{CP of 2nd item} = 900 - 375 = 525$$

$$\text{Loss} = \text{CP} - \text{SP} = 525 - 450 = 75$$

$$\% \text{ loss} = \frac{75 \times 100}{525} = 14.28\%$$



62. Arun bought a bag with 20% discount on the SP. If the watch cost him Rs.1400, What is the Original SP of the bag?

- A. 1750
- B. 1740
- C. 1650
- D. 1570

Answer: A

Explanation:  $X = \frac{1400 \times 100}{80} = 1750$

63. A lady sales saree, she charges 18% more than the CP. If a customer paid Rs.3560. Then what was the CP of that saree

- A. 3016
- B. 3017
- C. 3071
- D. 3072

Answer: B

Explanation:  $\frac{100 \times 3560}{118} = 3017$

64. A Shopkeeper professes to sell his articles on CP but he uses false weight of 900gm for 1kg. His gain % is

- A. 12.22%
- B. 11.01%
- C. 11.11%
- D. 12.11%

Answer: C

Explanation:  $(\frac{100}{900}) \times 100 = 11.11\%$

65. A dealer makes his goods 25% above CP and then while selling gives a discount of 12% on MP. Find his profit %

- A. 10%
- B. 15%
- C. 12%
- D. 11%

Answer: A

Explanation: Let CP = 100



$$MP = 125$$

$$\text{Profit} = \frac{125 \times 88}{100} = 110$$

$$110 - 100 = 10\%$$

**66. The price of the book is Rs.100. A dealer sells 3 such books for Rs.288 after allowing discount at certain rate. Find the rate of discount?**

- A. 7%
- B. 4%
- C. 5%
- D. 6%

**Answer:** B

**Explanation:** Price of 3 books = Rs.300

SP of 3 books = Rs.288

$$\% = \frac{(300 - 288) \times 100}{300} = 4\%$$

**67. A shopkeeper earns a profit of 15% by giving a discount of 20% on marked price of a book. Find the ratio between Cost price and marked Price?**

- A. 16:23
- B. 23:16
- C. 12:25
- D. 14:23

**Answer:** A

**Explanation:**  $\frac{MP \times (100 - 20)}{100} = \frac{CP \times (100 + 15)}{100}$

$$\frac{CP}{MP} = \frac{80}{115} = \frac{16}{23}$$

**68. The MRP of a dress is Rs.1050 and 15% discount is allowed, and the shopkeeper provided further 5% discount then what will be the Selling price of the dress**

- A. Rs.854
- B. Rs.848
- C. Rs.886
- D. Rs.765

**Answer:** B

**Explanation:**  $SP = \frac{1050 \times 85 \times 95}{100} \times 100 = 847.88 = 848$



**69. The selling price of 10 apples is the cost price of 13 apples then the profit % is**

- A. 15%
- B. 3%
- C. 10%
- D. 30%

**Answer:** D

**Explanation:** CP of 13 apples = SP of 10 apples

1 Apple = 10

13 Apples = 130

10 Apples = 100

SP = 130, CP = 100

$$\% = \left( \frac{130 - 100}{100} \right) \times 100 = 30\%$$

**70. A man purchases a certain no of oranges at Rs.10 each and same no at Rs.8. He mixes them together and sells them at each Rs.8. What is his gain or loss %?**

- A. 11.11% gain
- B. 11.11% loss
- C. 12.5% loss
- D. 17.5% gain

**Answer:** B

**Explanation:** 5 oranges (Rs.10) = 50

5 oranges (Rs.8) = 40

10 oranges (Rs.8) = 80

5 oranges (Rs.10) + 5 oranges (Rs.8) = 50 + 40 = 90

$$\% = \frac{(90 - 80) \times 100}{90} = 11.11\% \text{ loss}$$

**71. A man buys a single apple for Rs.18, he paid Rs.200 to buy a dozen apples, find the approximate discount %?**

- A. 10%
- B. 13%
- C. 7%
- D. 2%



**Answer:** C

**Explanation:** Cp of 12 apples =  $12 \times 18 = 216$

SP of 12 apples = 200

$$16 = \frac{X \times 216}{100}$$

$$X = \frac{16 \times 100}{216} = 7.4\% = 7\%$$

**72. If an article is sold for Rs.446 at a loss of 16%, find the Cost price of an article ?**

- A. Rs.521
- B. Rs.531
- C. Rs.528
- D. Rs.546

**Answer:** B

**Explanation:**  $SP = \frac{84}{100X}$

$$446 = \frac{84}{100X}$$

$$X = \frac{446 \times 100}{84} = 530.9 = 531$$

**73. A man sells a DVD player at a profit of 20%. Had he bought it at 25% less and sold it for Rs.840 less, he would have gained 10%. What is the cost price of the DVD player?**

- A. Rs.2240
- B. Rs.2100
- C. Rs.2320
- D. Rs.2760

**Answer:** A

**Explanation:** Let CP = 100.....SP = 120% = 120

$$\text{New CP} = 75 \dots \dots \dots \text{new SP} = \frac{75 \times 110}{100} = 82.50$$

$$\text{Diff b/w SP} = 120 - 82.50 = 37.50$$

$$\text{At diff 840, CP} = \frac{100 \times 840}{37.50} = 2240$$

**74. The marked price of a calculator was Rs.750; a man bought the same for Rs.550 after getting 2 successive discounts, if the 1st discount is 10% then find the 2nd discount %?**

- A. 23%



- B. 18%
- C. 21%
- D. 15%

Answer: B

Explanation:  $\frac{750 \times 10}{100} = 75$

After 1st discount

$$\text{Price} = 750 - 75 = 675$$

$$\text{2nd Discount} = \frac{(675 - 550) \times 100}{675} = 18.51\% = 18\%$$

**75. Allowing 25% discount and 17% successive discount, the selling price of an article is Rs.3240 then the marked price is**

- A. Rs.5320
- B. RS.5430
- C. Rs.5250
- D. Rs.5205

Answer: D

Explanation:  $\text{MP} = \frac{3240 \times 100 \times 100}{75 \times 83} = 5204.8 = 5205$

**76. Raman buys some apples at the rate of four for a rupee and same numbers of oranges at three for a rupee. To make a profit of 25%, Raman should sell a dozen for.**

- A. 3.75
- B. 4.3.75
- C. 5.75
- D. 6.75

Answer: B

Explanation: Let Raman buys 'X' apples at rate four for a rupee and 'X' apples at three for a rupee.

$$\text{So, cost price} = \frac{X}{4} + \frac{X}{3}$$

$$\text{CP} = \frac{6}{4} + \frac{6}{3} = 3.5$$

$$\text{Now SP} = \left(\frac{125}{100}\right) \times 3.5 = 4.375$$

**77. If selling price of 15 articles is equal to cost price of 20 articles then the percentage profit is.**

- A.  $\frac{50}{3}\%$



- B.  $\frac{100}{3}\%$
- C.  $\frac{200}{3}\%$
- D.  $\frac{400}{3}\%$

Answer: B

Explanation: CP of 15 articles = 15 (Take cp =1 re for each article). So, selling price = 20 (given)

$$\% \text{profit} = \left[ \frac{(20 - 15)}{15} \times 100 \right] = \frac{100}{3}\%$$

**78. A man purchases some oranges at the rate of 25 for rupee 100 and same amount of oranges at the rate of 50 for rupees 100. He mixes them and sell at the rate of 25 for rupees 75. Find the profit/loss percentage.**

- A. 4% loss
- B. 4% profit
- C. 5% loss
- D. No profit no loss

Answer: D

Explanation: Let man buys X unit of oranges at the rate of 25 for rupee 100 and X unit of oranges at the rate of 50 for rupee 100.

$$\text{CP} = \left( \frac{100}{25} \right) \times X + \left( \frac{100}{50} \right) \times X = 6X$$

$$\text{SP} = \left( \frac{75}{25} \right) \times 2X = 6X$$

So, no profit no loss

**79. Priya bought 10 tables at the rate of 600 each. She spends 1600 rupees on transportation and 400 on packaging. At what price should priya sell a table to make a profit of 20%**

- A. 860
- B. 920
- C. 960
- D. 1020

Answer: C

Explanation: Total cost =  $600 \times 10 + 1600 + 400 = 8000$  (For 10 tables)

$$\text{CP of one table} = \frac{8000}{10} = 800.$$

$$\text{SP} = 800 \times \frac{120}{100} = 960$$





80. What is difference between the selling price of an article costing 1000 rupees when a discount of 20% is given on the article and when two successive discounts of 10% is given on the article.

- A. 10
- B. 20
- C. 30
- D. 40

Answer: A

Explanation:  $(\frac{80}{100}) \times 1000 = 800$

$$1000 \times \frac{90}{100} \times \frac{90}{100} = 810.$$

81. If an article is sold for 270 at a loss of 10% then, to make a profit of 15%, at what price article should be sold.

- A. 315
- B. 325
- C. 335
- D. 345

Answer: D

Explanation:  $270 = (\frac{90}{100}) \times CP$ . So  $CP = 300$ .

$$\text{So, } SP = 300 \times \frac{115}{100} = 345$$

82. The marked price of an article is 20% above the cost price. When the selling price of an article is increased by 30% the profit doubles. If the marked price of an article is 480, then original selling price is.

- A. 531.15
- B. 537.14
- C. 571.4
- D. 582.12

Answer: C

Explanation: Given  $MP = \frac{120}{100} \times CP$ . So,  $CP = 400$ .

$$SP - 400 = P \text{ (Profit)}$$

$$(\frac{130}{100}) \times SP - 400 = 2P$$

$$\text{Solving both equation we get, } SP = \frac{400}{7} = 571.4$$



83. A man sold an article at a loss of 15%. If he sold the article at 50 rupee more , he would have made a profit of 20%. Find the cost price of the article.

- A.  $\frac{1000}{3}$
- B.  $\frac{1000}{7}$
- C.  $\frac{1000}{9}$
- D.  $\frac{1000}{11}$

Answer: B

Explanation:  $SP = \left(\frac{85}{100}\right) \times CP$

$$SP + 50 = \left(\frac{120}{100}\right) \times CP = \frac{1000}{7}$$

84. Find the selling price of an article if the shopkeeper offers two successive discount of 10% on marked price 400.

- A. 322
- B. 324
- C. 326
- D. 328

Answer: B

Explanation:  $\frac{400 \times 90}{100} \times \frac{90}{100} = 324$

85. A trader gains 10% while buying the goods and gains 20% while selling the goods. Find the gain percent of the trader.

- A. 30
- B. 31
- C. 32
- D. 34

Answer: C

Explanation: Traders gain 10% on buying means an article cost 110rs, he buy it for 100.

Now he sell it for 20% profit means  $\frac{110 \times 120}{100} = 132$ .

So gain% is 32.

86. By selling a TV for Rs.20855, a dealer suffers a loss of 3%, at what price should he sell it to gain 7%?

- A. Rs.23,500



- B. B.Rs.23,005
- C. C.Rs.22,750
- D. D.Rs.24,200

Answer: B

Explanation:  $SP = \frac{97}{100} \times CP$

$$CP = 20855 \times \frac{100}{97} = 21500$$

Gain 7%

$$\text{New SP} = 21500 \times \frac{107}{100} = 23005$$

**87. An item was brought at Rs.A and sold at Rs.B there by earning a profit of 20%.Had the value of A been 15% less and the value of B been Rs.76 less, a profit of 30% would have been earned. What was the value of B?**

- A. A.Rs.920
- B. B.Rs.800
- C. C.Rs.960
- D. D.Rs.750

Answer: C

Explanation:  $CP = A$ ,  $SP = B$

$$SP = B = \frac{120A}{100} = \frac{6A}{5} \dots\dots\dots I$$

$$SP = B - 76$$

$$CP = \frac{85}{100A} = \frac{17}{20A}$$

$$P = 30\%$$

$$= \frac{130}{100} \times \frac{17}{20A} = B - 76$$

$$B = \frac{221}{200X} + 76 \dots\dots\dots II$$

Equate I and II

$$\frac{221A}{200} + 76 = \frac{6A}{5}$$

$$76 = 240A - \frac{221A}{200}$$

$$A = 76 \times \frac{200}{19}$$





$$A = 800$$

$$B = 6 \times \frac{800}{5} = 960$$

**88. A shopkeeper bought 30kg of rice at Rs.75 per kg and 20 kg of rice the rate of Rs.70. per kg. If he mixed the two brand of rice and sold the mixture at Rs.80 per kg. Find his gain**

- A. Rs.350
- B. Rs.550
- C. Rs.420
- D. Rs.210

**Answer:** A

**Explanation:** CP =  $30 \times 75 + 20 \times 70 = 2250 + 1400$

$$= 3650$$

$$SP = 80 \times (30 + 20) = 4000$$

$$\text{Gain} = 4000 - 3650 = 350$$

**89. Cost price of 80 note books is equal to the selling price of 65 note books. The gain or loss % is**

- A. 23%
- B. 32%
- C. 42%
- D. 27%

**Answer:** A

**Explanation:** % =  $\left[80 - \frac{65}{654}\right] \times 100$

$$= \frac{15 \times 100}{65} = \frac{1500}{65} = 23.07 = 23\% \text{ profit}$$

**90. A shopkeeper gains 15% after allowing a discount of 20% on the market price of an article. Find his profit %, if the articles are sold at market price allowing no discount?**

- A. 50%
- B. 53.75%
- C. 43.76%
- D. 45%

**Answer:** C

**Explanation:** Market price = Rs.100

$$SP = Rs.80, \text{ Discount} = 20$$



Gain = 15%

$$CP = 80 \times \frac{100}{115} = 69.56$$

$$\text{Profit \%} = \left[ \frac{100 - 69.56}{69.56} \right] \times 100$$

$$= \frac{30.44 \times 100}{69.56}$$

= 43.76%

**91. Articles are marked at a price which gives a profit of 22%. After allowing a certain discount the profit reduced to half of previous profit, then the discount % is**

- A. 9%
- B. 7%
- C. 10%
- D. 12%

**Answer:** A

**Explanation:** CP = 100

MP = 122

SP = 111

$$\% \text{ of D} \Rightarrow 122 \times \frac{(100 - X)}{100} = 111$$

$$122 \times (100 - x) = 11100$$

$$12200 - 122x = 11100$$

$$12200 - 11100 = 122x$$

$$X = \frac{1100}{122} = 9.02 = 9\%$$



**92. A man purchases some mangoes at the rate of 3 for Rs.40 and 5 for Rs.60. If he sells all the mangoes at the rate of 3 for Rs.50, find his gain or loss %**

- A. 15%
- B. 32%
- C. 20%
- D. 27%

**Answer:** B

**Explanation:** 3  $\Rightarrow$  40, 15  $\Rightarrow$  200



$$5 \Rightarrow 60, 15 \Rightarrow 180$$

$$\text{Total} = 200 + 180 = 380$$

$$3 \Rightarrow 50, 30 \Rightarrow 500$$

$$\% = \left[ 500 - \frac{380}{380} \right] \times 100 = 31.57 = 32\%$$

**93. If the manufacturer gains 5%, the Wholesale dealer 8% and the retailer 12%, then the cost of production of an article whose retail price is Rs. 1247, is**

- A. Rs.1087
- B. Rs.900
- C. Rs.982
- D. Rs.1150

**Answer:** C

**Explanation:** C.P. of article

$$= \frac{\frac{247 \times 100}{105 \times 100}}{\frac{108 \times 100}{112}} = \text{Rs. } 981.8 = \text{Rs. } 982$$

**94. A Cow and a carriage together cost Rs 5000. If by selling the horse at a profit of 10% and the carriage at a loss of 10% a total profit of 2.5% is made, then what is the cost price of the cow?**

- A. Rs.3200
- B. Rs.3125
- C. Rs.4200
- D. Rs.4320

**Answer:** B

**Explanation:** Let the CP of cow be Rs x then CP of carriage would be Rs (5000 - x)

$$\text{SP of horse} = 1.1x$$

$$\text{SP of carriage} = 0.9 (5000 - x)$$

$$1.1x \times 0.9 (5000 - x) = 5000 \times 1.025 = 5125$$

$$1.1x + 4500 - 0.9x = 5125$$

$$0.2x = 625$$

$$x = \text{Rs } 3125$$

**95. By selling 16 bananas, a vendor loses the selling price of 4 bananas due to rain. Find his loss %**

- A. 10%



- B. 12%
- C. 17%
- D. 20%

Answer: D

Explanation:  $\text{Loss \%} = \frac{\text{loss} \times 100}{\text{Total}}$

$$= \frac{4 \times 100}{20} = \frac{400}{20} = 20\%$$

**96. After allowing a discount of 25% on the market price of an article, there is a gain of 20%. What is the profit % if the article is sold at market price i.e. allowing no discount?**

- A. 65%
- B. 55%
- C. 60%
- D. 50%

Answer: C

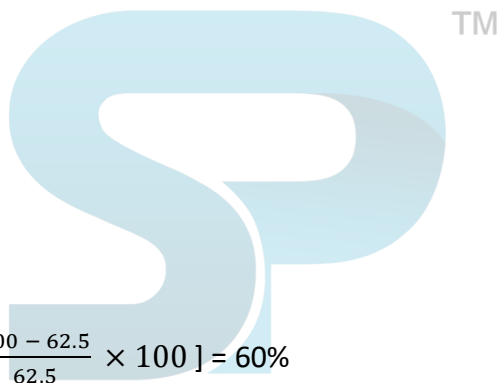
Explanation: Let MP = Rs 100

SP = Rs 75, then Discount = 25

Gain = 20%

$$\text{CP} = \left( \frac{100}{120} \right) \times 75 = 62.5$$

$$\text{So Profit\% when no discount} = \left[ \frac{100 - 62.5}{62.5} \times 100 \right] = 60\%$$



**97. A chair and a table together cost Rs 1800. If by selling the table at a profit of 15% and the chair at a loss of 10% a total profit of 6% is made, then what is the cost price of the chair?**

- A. Rs 890
- B. Rs 844
- C. Rs 648
- D. Rs 728

Answer: C

Explanation: Be method of allegation:

15		-10
	6	
6-(-10)		15-6

16: 9



$$\text{So cost of table} = \frac{9}{(16+9)} \times 1800 = 648$$

**98. An article is marked 10% above the cost price. When the selling price of an article is increased by 20% the profit gets increased by Rs 96. If the marked price of the article is Rs 440, then find original selling price.**

- A. Rs 455
- B. Rs 365
- C. Rs 385
- D. Rs 480

**Answer:** D

**Explanation:** MP = 440, Also given MP =  $(\frac{110}{100}) \times \text{CP}$ , so CP = Rs 400

$$\text{Now SP} - 400 = P$$

And given that, when SP increased by 20%:

$$(\frac{120}{100}) \times \text{SP} - 400 = P + 96$$

Solve both equations

**99. An article is sold at a discount of 25% and still there is a gain of 20% on it. Find the marked price of the article if it costs Rs 525.**

- A. Rs 658
- B. Rs 840
- C. Rs 758
- D. Rs 930

**Answer:** B

**Explanation:** Use M.P. =  $\frac{(100 + p \%)}{(100 - d\%)} \times \text{C.P.}$

$$\text{So MP} = \frac{(100+20)}{(100-25)} \times 525 = 840$$

**100. An article is marked at Rs 1500. A customer gets a discount of 20% on it. If he wants the article at Rs 960, what additional discount he wants to have?**

- A. 15%
- B. 20%
- C. 14%
- D. 22%

**Answer:** B





Explanation:  $1500 \times \left[ \frac{100-20}{100} \right] \times \left[ \frac{(100-X)}{100} \right] = 960$

= 20%

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