Profit and Loss-Exercise Questions updated on Dec 2024

1. The profit obtained by selling an article for Rs. 56 is the same as the loss obtained by selling it for Rs.42. What is the cost price of the article?

a. Rs. 40

b. Rs. 50

c. Rs. 49

d. None of these

2. The C.P of 21 articles is equal to S.P of 18 articles. Find the gain or loss percent.

a. 10%

b. $18\ ^{1}/_{3}\%$

c. $16\ ^{2}/_{3}$

d. 20%

3. An article is sold at a certain price. By selling it at 2/3 of that price one loses 10%. Find the gain percent at original price.

a. 15%

b. 35%

c. 25%

d. 50%

4. A man bought a horse and a carriage for Rs. 3000. He sold the horse at a gain of 20% and the carriage at a loss of 10%, thereby gaining 2% on the whole. Find the cost of the horse.

a. 2200

b. 1800

c. 1200

d. 1000

5. The price of a jewel, passing through three hands, rises on the whole by 65%. If the first and second sellers earned 20% and 25% profit respectively, find the percentage profit earned by the third seller.

a. 10%

b. 22%

c. 18%

d. 12%

6. At what percentage above the C.P must an articlebe marked so as to gain 33% after allowing a customer a discount of 5%?

a. 38%

b. 40%

c. 43%

d. 48%

7. A grocery purchased 80 kg of rice at Rs. 13.50 per kg and mixed it with 120 kg rice atRs.16 per kg. At what rate per kg should he sell the mixture to gain 16%?

a. Rs. 19

b. Rs. 20.5

c. Rs. 17.4

d. Rs. 21.6

8. On an article, the manufacturer gains 10%, the wholesale dealer 15%, and the retailer 25%, If its retail price is 1265, what is the cost of its production?

a. 1000

b. 800

c. 1100

d. 900

9. A dealer professing to sell his goods at cost price, uses 900gm weight for 1kg. His gain percent is

a. 13%

b $12\ ^{1}/_{3}\%$

c. $11\ ^{1}/_{9}\%$

d.10%

10. A trader has 50kg of rice, a part of which he sells at 14% profit and rest at 6% loss. On the whole his loss is 4%. What is the quantity sold at 14% profit and that at 6% loss?

a. 5 and 45 kg

b. 10 and 40 kg

c. 15 and 35 kg

d. 20 and 30 kg

11. The cost price of two types of tea are Rs.180 per kg and Rs. 200 per kg respectively. On mixing them in the ratio 5:3, the mixture is sold at Rs.210 per kg. In the whole transaction, the gain percent is

a. 10%

b. 11%

c. 12%

d. 13%

12. A trader marks his product 40% above its cost. He sells the product on credit and allows 10% trade discount. In order to ensure prompt payment, he further gives 10% discount on the reduced price. If he makes a profit of Rs.67 from the transaction, then the cost price of the product is

a. Rs. 300

b. Rs. 400

c. Rs. 325

d. Rs. 500

13. A retailer sold two articles at a profit percentage of 10% each. The cost price of one article is three – fourth that of the other. Find the ratio of the selling price of the dearer article to that of the cheaper one

a.4:3

b.3:4

c.41:31

d.51:41

14. If the S.P of Rs.24 results in a 20% discount on the list price, What S.P would result in a 30% discount on the list price?

a. Rs. 27

b. Rs..21

c. Rs.20

d. Rs. 9

15. Anil bought a T.V with 20% discount on the labelled price. Had he bought it with 25% discount, he would have saved Rs.500. At what price did he buy the T.V?

a. Rs. 16000

b. Rs. 12000

c. Rs. 10000

d. Rs. 5000

16. A single discount equivalent to a series of 30%, 20%, and 10% is

a. 50%

b. 49.6%

c. 49.4%

d. 51%

17. Ramya sells an article at three-fourth of its list price and makes a loss of 10%. Find the profit percentage if she sells at the list price.

a.20%

b.25%

c.15%

d. None of these

18.The ratio of the selling prices of three articles is 5:6:9 and the ratio of their cost prices is 4:5:8 respectively. What is the ratio of their respective percentages of profit, if the profit on the first and the last articles is the same?

a. 4:5:6

b. 10:8:5

c. 5;6;9

d. Cannot be determined

19. With the money I have, I can buy 50 pens or 150 pencils. I kept 10% a side for taxi fare. With the remaining, I purchased 54 pencils and P pens. What is the value of P?

a. 32

b. 30

c. 27

d. None of these

20. The selling price of 13 apples is the same as the cost price of 26 mangoes. The selling price of 16 mangoes is the same as the cost price of 12 apples. If the profit on selling mangoes is 20%, What is the profit on selling apples?

a. 20%

b.25%

c.40%

d. Cannot be determined

Answer & Explanations

1. Exp. S.P 1- C.P = C.P – S.P 2

   56 - C.P = C.P - 42

   2 C.P = 56 + 42;

   C.P = 98/2 = 49

2. Exp. Let C.P of each article be Re. 1.

   Then C.P of 18 articles = Rs. 18,

   S.P of 18 articles = Rs. 21.

   Gain % = (3/18 * 100) % = $16\ ^{2}/_{3}$

3. Exp. Let the original S.P be Rs. X. Then new S.P = Rs. 2/3 X, Loss =10%

   So C.P = Rs. [100/90*2/3 X] = 20 X/27.

   Now C.P = Rs. 20X/27, S.P =Rs. X, Gain = Rs. [X -20X/27] =Rs.7X/27.

   Gain % = [7X/27 *27/20X *100]% =35%

4. Exp.Let the C.P of the horse be Rs. X, Then, C.P of the carriage = Rs.(3000- x).

   20% of x - 10% of (3000-x) =2% of 3000 = 60,

   x/5 - (3000-x)/10 = 60, 3x - 3000 = 600, 3x =3600, x = 1200.

   Hence, C.P of the horse = Rs. 1200

5. Exp. Let the original price of the jewel be Rs. P and let the profit earned by the third seller be x%.

   Then, (100 +x)% of 125% of 120% of P = 165% of p

   [(100+x)/100*125/100*120/100* P] = [165/100* P]

   (100 + X) = $\frac{165*100*100}{125*120}$ = 110, X = 10%.

6. Exp. Let C.P = Rs. 100, Then S.P = Rs.133.

   Let the marked price be x

   Then , 95% of x = 133, 95 x/ 100 =133, x = 133*100/95 =140

   Marked price = 40% above C.P

7. Exp. C.P OF 200 kg of mix = Rs.[80*13.50+120*16] =Rs.3000

   S.P =116% of Rs.3000 = Rs. 116/100*3000 = 3480

   Rate of S .P of the mixture = Rs. [3480/200] per kg

= Rs. 17.40 per kg

8. Exp. 110/100*115/100*125/100*C.P =1265, 11/10*23/20*5/4 C.P =1265

C.P = 800

9. Exp. Gain % = $\frac{\text{Error}}{(\text{True value}) - \text{Error}}$ *100 %

= $\frac{1000\text{gm} - 900\text{gm}}{1000 - 100}$ * 100 % = 100/900*100% = 100/9

= 11 1/9 %

10. Exp. Alligation Method

Ratio of quantities sold at 14% profit and 6% loss = 1: 9

Quantity sold at 14% profit = 50/1+9 *1 = 5 kg

Quantity sold at 6% loss = 50/1+9 *9 = 45kg

11. Exp. Let 5kg of first kind of tea be mixed with 3 kg of second kind

C.P of 8 kg of tea = Rs. (180*5 + 200*3) = Rs. 1500

S.P of 8 kg of tea = Rs. (210 * 8) = Rs. 1680

Gain = Rs. (1680 – 1500) = Rs. 180

Gain% = (180/1500*100)% = 12%

12. Exp. M.P = C.P *1.4

Profit = S.P - C.P = C.P (1.4) (0.9) (0.9) – C.P = 67

C.P (1.134 – 1) = 67, C.P = 500

13. Exp. Let C.P of one of the article be X, Then C.P of the other = ¾X,

S.P 1 = 11X/10, S.P2 =3/4*11/10X,

S.P1/S.P2 = 11X/10 *40/33X = 4/3

S.P1: S.P2 = 4 : 3

14. Exp. Let the list price be Rs. X,

80/100*x = 24, x = 24*100/80 = 30

Required S.P = 70% of Rs. 30 = 70*30/100 =21

15. Exp. Let the labelled price be Rs. X,

S.P = 80/100*X =4X/5

New S.P = 75/100*X = 3X/4

4X/5 –3X/4 500, X = 10000

16. Exp. Let the marked price be Rs. 100

Then S.P = 90% of 80% of 70% of 100

= (90/100*80/100*70/100*100) =50.4

Single discount = (100- 50.4)% = 49.6%

17. Exp. Let the list price be x,

S.P =3/4X, S.P = (100 – loss%) /100*C.P = 0.9 C.P

3/4x =0.9C.P, C.P =3X/3.6

If S.P = X, Profit % = (x- 3x/3.6) / (3x/3.6) *100= 60/3 = 20%

18. Exp. Given that the selling prices of three articles,

S.P1 =5X, S.P2 =6X, S.P3 =9X,

And their cost prices are C.P1 =4Y, C.P 2 =5Y, C.P3 =8Y

Given that , S.P1 –C.P1 =S.P2 –C.P2, 5X-4Y =9X-8Y, X =Y,

Their profit percentages are, p1 =(5-4)/4*100 = 25% ,

p2 = (6-5)/5*100 = 20%, p3 = (9-8)/8*100 = 12 $^{1}/_{2}$ %

Ratio of the percentages is 25:20:12 $^{1}/_{2}$ = 10:8:5

19. Exp. Since cost of, 50 pens = 150 pencils, With the cost of 3 pencils I can buy 1 pen. After putting aside 10% for taxi I was left with 90% of the money , with which I can buy 135 pencils (90% of 150) or 45(90% of 50) pens, I bought 54 pencils and P pens, or I could have bought (54 +3P) pencils ,

54 +3P =135, 3P = 135-54 =81, P =27

20. Exp. Given that S.P of 13 apples = C.P of 26 mangoes

S.P of an apple = 2*C.P of the mango

S.P of 16 mangoes = C.P of 12 apples

C.P of the apple = 4/3 *S.P of the mango

	Mango	Apple
C.P	x	4/3*y
S.P	y	2x

Given that y = 1.2x

C.P of apple = 4/3*1.2x =1.6x

Profit on each apple = (S.P – C.P)/C.P*100,

= (2x –1.6x)/1.6*100 = 0.4/1.6 *100 =25