MATHS

BOOKS - S CHAND IIT JEE FOUNDATION

PROFIT AND LOSS AND DISCOUNT

Solved Examples

1. A person incurs 5% loss by selling a watch for Rs. 1140. At what price should the watch be

sold to earn 5% profit ?

2. A vendor bought buttons at 6 for rupee. How many for a rupee must he sell to gain 20%?

3. If 3 toys are sold at the cost price of 4 toys of the same kind, the profit will be :

4. A shopkeeper gains $20\,\%$ while buying the goods and $30\,\%$ while selling them. Find his total gain percentage.

5. A man sells a bicycle at a gain of 10%. If he had bought it at 10% less and sold it for Rs.

132 less, he would have still gained 10%. The cost price of the article is

6. A shopkeeper sells two T.V. sets at the same price. There is a gain of 20% on one TV and a loss of 20% on the other. State which of the following statement is correct :

A. The shopkeeper neither gains nor loses.

B. The shopkeeper loses by 2%

C. The shopkeeper gains by 4%

D. The shopkeeper loses by 4%

Answer: D

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7. A book seller bought 200 textbooks for Rs. 1200 He wanted to sell them at a profit that he gets 20 books free At what profit per cent should he sell them ?

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8. A owned article worth Rs. 10,000. He sold it to B at a profit of 10 % based on the worth of the article B sold the article back to A at a loss of 10 % How much did A make in these transactions ?

A. Rs. 1800

B. Rs. 1560

C. Rs. 1320

D. Rs. 1100

Answer: Rs. 1100.

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9. I bought two tables for Rs. 5400. I sold one

at a loss of 5% and the other at gain of 7%

In the whole transaction, I neither gained nor

lost. Find the costs of the tables separately.

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10. Ram mixes 15 kg of sugar purchased at the rate of Rs. 8.00 per kg with 25 kg of sugar purchased at the rate of Rs. 10.00 per kg. At what rate per kg should Ram sell the mixture to get a profit of 3 per kg ?

A. Rs. 12.25

B. Rs. 11.25

C. Rs. 13.25

D. Rs. 14.25

Answer: Rs. 12.25

11. A shopkeeper offers 2.5% discount on cash purchases. What cash amount would Rohan pay for a cycle, the marked price of which is Rs. 650? $Rs.633.25$ b. $Rs.633.75$ c. $Rs.634$ d. $Rs.635$

12. A pair of articles was bought for Rs. 37.40 at a discount of 15%. What must be the marked price of each of the articles? $Rs.11$ b. $Rs.22$ c. $Rs.33$ d. $Rs.44$

13. Find the selling price of an article if a shopkeeper allows two successive discounts of 5% each on the marked price of Rs. 80. $Rs.70.10$ b. $Rs.70.20$ c. $Rs.72$ d. $Rs.72.20$

14. A dealer buys an article marked at Rs. 25000 with 20% and 5% off He spends Rs. 2000 on its repairs and sells it for Rs. 25000. What is his gain or losss $\%$?

15. The marked price of a watch is Rs. 800. A customer gets two successive discount on the marked price, the first being 10% . What is the

second discount if the customer pays Rs. 612 for it ?

A. 14%

B. 15%

C. 17%

D. 18%

Answer: $15\,\%$

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16. A shopkeeper allows a discount of 10% on his goods. For cash payments he further allows a discount of 20% Find a single discount equivalent of the above offer.

    A. 25%

    B. 28%

    C. 32%

    D. 35%

Answer: 28%

17. A shopkeeper sells his goods at 10% discount on the marked price. What price should be marked on an article that costs him Rs. 900 to gain 10% ?

A. Rs. 800

B. Rs. 900

C. Rs. 1000

D. Rs. 1100

Answer: Rs. 1100.

18. The marked price of an article is Rs. 200. A discount of $12\dfrac{1}{2}\%$ is allowed on the marked price and a profit of 25% is made. What is the cost price of the article ?

    A. Rs. 120

    B. Rs. 140

    C. Rs. 160

D. Rs. 180

Answer: Rs. 140

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19. A dealer marks an item 40% above the cost price and offers a discount of 25% on the marked price. What is his profit percentage ?

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1. 100 oranges are bought for Rs. 350 and sold at the rate of Rs. 48 per dozen. The percentage of profit or loss is :

    A. 15% loss

    B. 15% gain

    C. $14\dfrac{2}{7}\%$ loss

    D. $14\dfrac{2}{7}\%$ profit

Answer: D

2. If Ashok makes a profit of 25% on the selling price what will be his profit on C.P. ?

A. 40%

B. 20%

C. $33\dfrac{1}{3}\%$

D. 25%

Answer: C

3. A person sells 320 mangoes at the cost of

400 mangoes. What is his profit per cent ?

A. 10 %

B. 15 %

C. 20 %

D. 25 %

Answer: D

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4. A shopkeeper sells an article at a loss of $12\frac{1}{2}\%$. Had he sold it for Rs. 51.80 more than he would have earned a profit of 6 % . The cost price of the article is

   A. Rs. 280

   B. Rs. 300

   C. Rs. 380

   D. Rs. 400

Answer: A

5. A dealer buys an old cooler listed at Rs. 950 and gets a discount of 10%. He spends Rs. 45 for its repair. If he sells the cooler at a profit of 25%, then the selling price of the cooler is

A. Rs. 1125

B. Rs. 1215

C. Rs. 1251

D. Rs. 1512

Answer: A

6. A merchant has 1000 kg of sugar,part of which he sells at 8% profit and the rest at 18% profit.He gains 14% on the whole. The quantity sold at 18% profit is

A. 560 kg

B. 600 kg

C. 400 kg

D. 640 kg

Answer: B

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7. The cost of price f 20 articles is the same as the selling price of x articles. If the profit is 25% then the value of x is 15 b. 16 c. 18 d. 25

A. 15

B. 16

C. 18

D. 25

Answer: B

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8. An article passing through two hands is sold at a profit of 38% at the original cost price. If the first dealer makes a profit of 20%, then the profit percent made by the second is 5 b. 12 c. 15 d. 10

A. 15

B. 12

C. 10

D. 5

Answer: A

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9. A person bought some articles at the rate of

5 per rupee and the same number at the rate

of 4 per rupee. He mixed both the types and

sold at the rate of 9 for 2 rupees. In this business he suffered a loss of Rs. 3. The total number of articles bought by him was 540 b. 545 c. 1080 d. 1090

A. 1090

B. 1080

C. 540

D. 545

Answer: B

10. A person sells a table at a profit of 20% . If he had bought it at 10% less cost and sold for Rs. 105 more he would have gained 35% . The cost price of the table is

A. Rs. 7000

B. Rs. 7350

C. Rs. 9200

D. Rs. 8140

Answer: A

11. The percentage of loss when an article is sold at Rs. 50 is the same as that of the profit when it is sold at Rs. 70. The above mentioned percentage of profit or loss on the article is

A. 10 %

B. 12 %

C. $16\dfrac{2}{3}$ %

D. $8\dfrac{1}{3}$ %

Answer: C

12. In what ratio must a grocer mix teas at Rs. 60 a kg, and Rs. 65 a kg, so that by selling the mixture at Rs. 68.20 a kg, he may gain 10% ?

A. $3:2$

B. $3:4$

C. $3:5$

D. $4:5$

Answer: A

13. A tradesman sold an article at a loss of 20%. If the selling price had been increased by Rs. 100, there would have been a gain of 5%. The cost price of the article was:

A. Rs. 200

B. Rs. 225

C. Rs. 400

D. Rs. 250

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14. A man bought two goats for Rs. 1008. He sold one at a loss of 20% and the other a profit of 44%. If each goat was sold for the same price, the cost price of the goat which was sold at a loss was

A. Rs. 648

B. Rs. 360

C. Rs. 568

D. Rs. 440

Answer: A

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15. Two-thirds of a consignment was sold at a profit of 6% and the rest at a loss of 3%. If however there was an overall profit of Rs. 540,

the value of consignment was $Rs.15000$ b. $Rs.18000$ c. $Rs.16000$ d. none of these

A. Rs. 15000

B. Rs. 16000

C. Rs. 18000

D. Rs. 16500

Answer: C

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16. A man sells two horses for Rs. 1485. The cost price of the first is equal to the selling price of the second. If the first is sold at 20 % loss and the second at 25 % gain, what is his total gain or loss (in rupees) ?

   A. Rs. 80 gain

   B. Rs. 60 gain

   C. Rs. 60 loss

   D. Neither gain nor loss

Answer: D

17. A trader purchases a watch and a wall clock for Rs.390. He sells them making a profit of 10% on the watch and 15% on the wall clock. He earns a profit of Rs. 51.50. The difference between the original prices of the wall clock and the watch is equal to $Rs.80$ b. $Rs.100$ c. $Rs.110$ d. $Rs.120$

   A. Rs. 110

   B. Rs. 100

C. Rs. 80

D. Rs. 120

Answer: A

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18. The profit earned by selling an article for Rs. 900 is double the loss incurred when the same article is sold for Rs. 450. At what price should the article be sold to make 25% profit?

$Rs.$600 b. $Rs.$750 c. $Rs.$800 d. data inadequate

A. Rs. 750

B. Rs. 800

C. Rs. 600

D. Rs. 900

Answer: A

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19. A person A sells a table costing Rs. 2000 to a person B and earns a profit of 6%. The

person B sells it to another person C at a loss

of 5 % . At what price did B sell the table ?

A. Rs. 2054

B. Rs. 2050

C. Rs. 2024

D. Rs. 2014

Answer: D

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20. Sanjay sold a bicycle to Salman at 46% profit. Salman spent Rs. 40 on repairs and sold it to Sunit for Rs. 1500. In this deal, Salman made neither profit nor loss. What is the cost price for Sanjay ?

    A. Rs. 900

    B. Rs. 960

    C. Rs. 1000

    D. Rs. 1060

Answer: C

21. In a certain store, the profit is 320% of the cost. If the cost increases by 25% but the selling price remains constant, approximately what percentage of the selling price is the profit? a. 30 % b. 70 % c. 100 % d. 250 %

A. 30 %

B. 70 %

C. 100 %

D. 250 %

Answer: B

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22. A man gains 10% by selling an article for a certain price.If he sells it at double the price,then the profit made is

A. 120 %

B. 60 %

C. 100 %

D. 80 %

Answer: A

23. If selling price is doubled, the profit triples. Find the profit percent. $66\dfrac{2}{3}$ b. 100 c. 120 d. $105\dfrac{1}{3}$

A. $66\dfrac{2}{3}$

B. 100

C. $105\dfrac{1}{3}$

D. 120

Answer: B

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24. A cycle agent buys 30 bicycles, of which 8 are first grade and the rest are second grade, for Rs. 3150. Find at what price he must sell the first grade bicycles so that if he sells the

second grade bicycles at three quarters of the price, he may make a profit of 40% on his out lay ?

A. Rs. 200

B. Rs. 240

C. Rs. 18000

D. Rs. 210

Answer: C

25. I purchased 120 exercise books at the rate of Rs. 3 each and sold $\frac{1}{3}$ of them at the rate of 4 each, $\frac{1}{2}$ of them at the rate of Rs. 5 each and the rest at the cost price. My profit percent is

44 % b. 45 % c. $44\frac{4}{9}$ % d. $44\frac{2}{3}$ %

A. 44 %

B. $44\frac{4}{9}$ %

C. $44\frac{2}{3}$ %

D. 45 %

Answer: B

26. A man bought two old scooters for Rs. 18000. By selling one at a profit of 25% and the other at a loss of 20%, he neither gains nor loses. Find the cost price of each scooter.

A. 12000, 6000

B. 8000, 10000

C. 11000, 7000

D. 13000, 5000

Answer: B

27. Mohan bought 20 dining les for Rs. 12000

and them at a profit equal to the selling price

of 4 dining tables. The selling price of 1 dining

table is $Rs.700$ b. $Rs.725$ c. $Rs.750$ d. $Rs.775$

    A. Rs 700

    B. Rs. 750

    C. Rs. 725

D. Rs. 775

Answer: B

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28. Veenu purchased two types of wheat, one costing Rs. 20 per kg and the other Rs. 25 per kg in quantities having ratio $5:4$ He mixed the two and sold the mixture at Rs. 24 per kg. In the transaction he got

A. 2% loss

B. 2 % gain

C. 8 % gain

D. 8 % loss

Answer: C

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29. By selling a transistor for Rs. 572, a shopkeeper earns a profit equivalent to 30 % of the cost price of the transistor. What is the cost price of the transistor ?

A. Rs. 340

B. Rs. 400

C. Rs. 440

D. Rs. 350

Answer: C

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30. A man bought goods worth 6000 and sold

half of them at a gain of 10%. At what gain

percent must he sell the remainder so as to

get a gain of 25% on the whole? 25 % b. 30 %

c. 35 % d. 40 %

A. 40 %

B. 30 %

C. 25 %

D. 20 %

Answer: A

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Section B Question Bank 11 B

1. At a clearance sale, all goods are on sale at 35% discount. If I buy a dress marked Rs. 800, how much would I need to pay ?

    A. Rs. 280

    B. Rs. 350

    C. Rs. 520

    D. Rs. 600

Answer: C

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2. After allowing a discount of 26% on the marked price of an article, it is sold at Rs. 444. Find its marked price.

A. Rs. 500

B. Rs. 550

C. Rs. 640

D. Rs. 600

Answer: D

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3. Find the rate of discount when an article marked at Rs. 1500 is sold at Rs. 1140.

A. 25 %

B. 76 %

C. 24 %

D. 20 %

Answer: C

4. The marked price of an article is Rs. 500. It is sold at successive discounts of 20% and 10%. The selling price of the article (in rupees) is :

A. 350

B. 375

C. 360

D. 400

Answer: C

5. For the purchase of a motor car, a man has to pay 17000 when a single discount of 15% is allowed. How much will he have to pay for it if two successive discounts of 5% and 10% respectively are allowed? $Rs.17000$ b. $Rs.17010$ c. $Rs.17100$ d. $Rs.18000$

   A. Rs. 17000

   B. Rs. 17010

   C. Rs. 17100

D. Rs. 18000

Answer: C

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6. By giving a discount of 10% on the marked

price of Rs. 1100 of a cycle, a dealer galns 10%.

The cost price of the cycle is :

A. Rs. 1100

B. Rs. 900

C. Rs. 1089

D. Rs. 891

Answer: B

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7. Ashok buns a car at 20% discount of the price and sells it at 20% higher price. His percentage gain is 20% b. 40% c. 50% d. $66\dfrac{2}{3}\%$

A. 40 %

B. 50 %

C. $66\frac{2}{3}$ %

D. 20 %

Answer: B

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8. A dealer buys a table listed at Rs. 1,500 and

gets successive discounts of 20% and 10%. He

spends Rs. 20 on transporta tion and sells it at

a profit of 20%. Find the selling price of the table.

A. Rs. 15800

B. Rs. 1650

C. Rs. 1188

D. Rs. 1210

Answer: D

9. a dealer buys a car listed at Rs. 200000 at successive discounts of 5% and 10%. If he sells the car for Rs. 179550, then his profit is

A. 10%

B. 9%

C. 5%

D. 4%

Answer: C

10. A fan is listed at Rs. 1400 and the discount offered is 10% What additional discount must be given to bring the net selling price to Rs. 1200 ?

A. $16\dfrac{2}{3}\%$

B. 5%

C. $4\dfrac{16}{21}\%$

D. 6%

Answer: C

11. A trader marks his goods at 40% above the cost price but allows a discount of 20% on the marked price. His profit percentage is

    A. 20%

    B. 10%

    C. 8%

    D. 12%

Answer: D

12. A shopkeeper buys an article for Rs. 180.

After allowing a discount of 10% on his

marked price, he wants to earn a profit of

20% His marked price must be

A. Rs. 210

B. Rs. 240

C. Rs. 270

D. Rs. 300

Answer: B

13. A pen is listed for Rs. 12. A discount of 15% is given on it. A second discount is given bringing the price down to Rs. 8.16. The rate of second discount is

A. 15 %

B. 18 %

C. 20 %

D. 25 %

Answer: C

14. A single discount equivalent to successive discounts of 30%, 20% and 10% is

A. 50 %

B. 51 %

C. 49.4 %

D. 49.6 %

Answer: D

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15. A shopkeeper offers his customers `10% discount and still makes a profit of 26%. What is the actual cost to him of an article marked Rs 280?

A. Rs. 175

B. Rs. 200

C. Rs. 215

D. Rs. 225

Answer: B

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16. An article is listed at Rs. 900 and tow successive discounts of 8% and 8% are given on it. How much would the seller gain or lose, if he gives a single discount o 16% instead of

two discounts? $Ga \in of\ Rs\ 4.\ 76$ b.

$Los\ f\ Rs.5.76$ c. $Loss\ of\ Rs.4.76$ d.

$Ga \in of\ Rs{\cdot}5.\ 76$

A. Gain, Rs. 4.76

B. Loss, Rs. 5.76

C. Gain, Rs. 5.76

D. Loss, Rs. 4.76

Answer: B

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17. A wholesaler sells 20 pens at the marked price of 15 pens to a retailer. The retailer in turn sells them giving a discount of 2% on the marked price. The gain per cent ot the retailer is

18. The marked price of an electric iron is Rs. 690. The shopkeeper allows a discount of 10% and gains 8%. If no discount is allowed, his gain per cent would be

A. 20 %

B. 24 %

C. 25 %

D. 28 %

Answer: A

19. A dealer buys an article for Rs 380. At what

price must he mark it so that after allowing a

discount of 5%, he still makes a profit of 25%?

A. Rs. 400

B. Rs. 450

C. Rs. 500

D. Rs. 600

Answer: C

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20. Successive discounts of $12\dfrac{1}{2}\%$ and $7\dfrac{1}{2}\%$ are given on the marked price of a cupboard. If

the customer pays Rs. 2590, then what is the

marked price ?

A. Rs. 3108

B. Rs. 3148

C. Rs. 3200

D. Rs. 3600

Answer: C

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21. The difference between a discount of 35% and two successive discounts of 20% on a certain bill was Rs. 22 Find the amount of the bill.

  A. Rs. 1100

  B. Rs. 2000

  C. Rs. 2200

  D. Rs. 1000

Answer: C

22. A shopkeeper purchased 150 identical pieces of calculators at the rate of Rs. 250 each. He spent an amount of Rs. 200 on transport and packing. He fixed the labelled of each calculator at Rs. 320. However, he decided to gave a discount of 55% on the labelled price. What is the percentage profit earned by him? 14% b. $15\dfrac{1}{2}\%$ c. $16\dfrac{2}{3}\%$ d. 20% e. none of these

A. 14%

B. 15 %

C. 16 %

D. 20 %

Answer: A

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23. By selling an article at $\dfrac{2}{5}$ of the market price there is a loss of 25%. The ratio of the marked price and the cost price of the article is 2 : 5 b. 5 : 2 c. 8 : 15 d. 15 : 8

A. $2 : 5$

B. $5 : 2$

C. $8 : 15$

D. $15 : 8$

Answer: D

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24. Two shopkeepers sell a radio of similar brand and type at the same list price of Rs. 1000. The first allows two successive discounts

of 20 % and 10 % and the second allows two successive discounts 15 % and 15 % . Find the difference in the discounts offered by the two shopkeepers.

A. Rs. 3.50

B. Rs. 2.50

C. Rs. 1.50

D. Rs. 1.75

Answer: B

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25. A discount of 15% on one article is the same as a discount of 20% on another article. The costs of the two articles can be $Rs.40, Rs.20$ b. $Rs.60, Rs.40$ c. $Rs.80, Rs.60$ d. $Rs.60, Rs.40$

A. Rs. 40, Rs. 20

B. Rs. 60, Rs. 40

C. Rs. 80, Rs. 60

D. Rs. 50, Rs. 30

Answer: C

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Self Assessment Sheet

1. A referigerator and a camera were sold for Rs. 12,000 each. The referigerator was sold at a loss of 20% of the cost and the camera at a gain of 20% of the cost. The entire transaction results in which one of the following ?

A. No loss or gain

B. Loss of Rs. 1,000

C. Gain of Rs. 1000

D. Loss of Rs. 2,000

Answer: B

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2. A man sells a book at a profit of 20% . If he had bought if at 20% less and sold it for Rs. 18 less, he would have gained 25%. The cost price

of the book is $Rs.60$ b. $Rs.70$ c. $Rs.80$ d.

$Rs.90$

A. Rs. 80 gain

B. Rs. 70

C. Rs. 60

D. Rs. 90

Answer: D

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3. If a shopkeeper sells $\dfrac{1}{3}$ of his gods at a profit of 14% $\dfrac{3}{5}$ of the goods at a profit of 17.% and the remaining at a profit of 20%, then his profit on the whole is equal to 15. 5 % b. 16 % c. 17 % d. 16. 5 %

A. 15.5 %

B. 16 %

C. 16.5 %

D. 17 %

Answer: C

4. A shopkeeper sells an item at a loss of $12\dfrac{1}{2}\%$. In order the gain 6% profit, he must increase the selling price by Rs. 92.50. The cost price of the item is :

    A. Rs. 500

    B. Rs. 450

    C. Rs. 550

    D. Rs. 600

Answer: A

5. A shopkeeper sold a TV set for Rs. 17,940 with a discount of 8% and earned a profit of 19.6% . What would been the percentage of profit earned if no discount was offered ?

A. 24.8%

B. 25%

C. 26.4%

D. None of these

Answer: A::B::C::D

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6. A dealer lists his articles at 20% above cost price and allows a discount of 10%. His gain per cent is

A. 10 %

B. 8 %

C. 6 %

D. 5 %

Answer: B

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7. A machine is sold at a profit of 10% Had it been sold for Rs. 40 less, there would have been a loss of 10%. What was the cost price ?

A. Rs. 175

B. Rs. 200

C. Rs. 225

D. Rs. 250

Answer: B

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8. Reena goes to a shop to buy a radio, costing RS 2568. The rate of value added tax is 7%. She tells the shopkeeper to reduce the price of the radio to such an extant that she has to pay Rs

2568, inclusive of value added tax. Find the reduction needed in the price of the radio.

A. Rs. 179.76

B. Rs. 17010

C. Rs. 168

D. Rs. 169

Answer: C

9. A house costs C rupees. Later it was sold for a profit of 25% What is the capital tax if it is 50% of the profit ?

A. $C/24$

B. $C/8$

C. $C/4$

D. $C/2$

Answer: B

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10. If selling price of an article is $\frac{4}{3}$ of its cost price, the profit in the transaction is $16\frac{2}{3}\%$ b. $20\frac{1}{2}\%$ c. $25\frac{1}{2}\%$ d. $33\frac{1}{3}\%$

A. $\frac{1}{3}\%$

B. $20\frac{1}{2}\%$

C. $33\frac{1}{3}\%$

D. $25\frac{1}{2}\%$

Answer: C

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