



# MATHS

## BOOKS - S CHAND IIT JEE

### FOUNDATION

# PERCENTAGE AND ITS APPLICATIONS

## Example

1. Shatabdi Express has a capacity of 500 seats of which 10% are in Executive class and the

rest being Chair cars. During one journey, the train was booked 85% of its capacity. If Executive class was booked to 96% of its capacity, then how many chair car seats were empty during that journey?



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2. In an examination, a student who gets 20% of the maximum marks fails by 5 marks. Another student who scores 30% of the maximum marks gets 20 marks more than the

pass marks. The necessary percentage required for passing is :



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3. What percentage of numbers from 1 to 70 have squares that end in the digit 1? 1 b. 14 c. 20 d. 21



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4. Entry fee in an exhibition was Rs 1. Later this was reduced by 25% which increased the sale by 20%. Find the percentage increase in the number of visitors.



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5. The cost of manufacturing a TV set is made up of material costs, labour costs and overhead costs. These costs are in the ratio 4:3:2. If materials costs and labour costs rise

by 10% and 8% respectively, while the overhead costs reduce by 5%, what is the percentage increase in the total cost of the TV set?



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6. The price of rice is reduced by 2%. How many kilograms of rice can now be bought for the money which was sufficient to buy 49 kgs of rice earlier ?



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7. What is the ratio in which two sugar solutions of concentrations 15% and 40% are to be mixed to get a solution of concentration 30% ?



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8. A man spends 75% of his income. His income increases by 20% and his expenditure also increase by 10% . Find the percentage increase in his savings.



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9. A number is increased by 20% and then again by 20%. By what percent should the increased number be reduced so as to get back the original number?  $19\frac{11}{31}\%$  b.  $30\frac{5}{9}\%$   
c. 40% d. 44%



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**10.** A reduction of 20% in the price of sugar enables a purchaser to obtain 3 kg more for Rs 120. The original price (per kg) of sugar is



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**11.** A vendor purchased 40 dozen bananas for Rs 250. Out of these, 30 bananas were rotten and could not be sold. At what rate per dozen should he sell the remaining bananas to make a profit of 20%







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**12.** If 6 articles are sold for Rs 1 then there is a loss of 20%. In order to gain 20%, what must be the number of articles sold for Rs 1 ?



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**13.** The price of a jewel, assigned through three hands, rises on the whole by 65%. If the first and the second sellers earned 20% and 25%

profit respectively, find the percentage profit earned by the third seller.



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**14.** A sold a watch to B at 20% gain and B sold it to C at a loss of 10%. If C bought the watch for Rs 216, at what price did A purchase it?



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**15.** A man sold two steel chairs for 500 each. On gains 20% and on the other, he loses 12%. How much does he gain or lose in the whole transaction. 1. 5% gain 2. 2% gain 3. 1.5% loss 4. 2% loss



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**16.** A dishonest shopkeeper claims to sell his goods at cost price but uses a weight of 800

gm in place of the standard 1 kg weight. What is his gain per cent?



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17. A fair price shopkeeper takes 10% profit on his goods. He lost 20% goods during theft. His loss percent is 8 b. 10 c. 12 d. 11



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**18.** Three items are purchased at Rs 4500 each. One of them is sold at a loss of 10%. At what price should the other two be sold so as to gain 20% on the whole transaction? What is the gain % on these two items?



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**19.** By selling 90 ball pens for Rs 160 a person loses 20%. How many ball pens should be sold for Rs 96 so as to have a profit of 20%?





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**20.** A dealer sells an article for Rs. 75 and gains as much per cent as the cost price of the article. Find the cost price of the article.



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**21.** A shopkeeper offers 10% discount on the marked price of his articles and still makes a profit of 20%. What is the actual cost of the article marked Rs 500 for him?



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**22.** The marked price of a watch is Rs 1600. After two successive discounts it is sold for Rs 1224. If the rate of first discount is 10%. What is the rate of second discount?



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**23.** On an article with marked price Rs 20000, a customer has a choice between the

successive discounts of 20%, 20% and 10% and three successive discounts of 40%, 5% and 5%. How much can he save by choosing the better offer ?



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24. A discount series of  $p\%$  and  $q\%$  on an invoice is the same as a single discount of

- $\left[ p + q + \frac{pq}{100} \right] \%$    b.  $\left[ p - q + \left[ \frac{pq}{100} \right] \%$    c.  
 $100 - \left[ p + q + \frac{pq}{100} \right] \%$    d. none of these



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**25.** A merchant fixes the sale price of his goods at 15% above the cost price. He sells his goods at 12% less than the fixed price. His percentage of profit is :



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**26.** How much per cent more than the cost price should a shopkeeper mark his goods so that after allowing a discount of 20% on the marked price, he gains 10%?



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**27.** A shopkeeper sold a TV set for Rs 17940 with a discount of 8% and earned a profit of 19.6%. What would have been the percentage of profit earned if no discount was offered ?



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**28.** A shopkeeper fixes the marked price of an item 35% above its cost price. The percentage

of discount allowed to gain 8% is 20% b.  
27% c. 31% d. 43%



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**29.** A tradesman gives 4% discount on the marked price and gives 1 article free for buying every 15 articles and thus gains 35%. The marked price is increased above the cost price by



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**30.** A manufacturer marks his goods at 40% above the cost price. He allows a discount of 10% for cash customers and 5% to credit customers.  $\frac{3}{5}$  of the goods are sold for cash and the rest on credit. What is the percentage of profit when all the goods are sold and amount realised?



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**Question Bank Section A Percentage**

1. The sum of two numbers is 4000. 10% of one number is  $6\frac{2}{3}$  % of the other. The difference of the



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2. The difference of the squares is of two numbers is 80% of the sum of their squares. The ratio of the larger number to the smaller number is

A. 5:2

B. 2: 5

C. 3: 1

D. 1: 3

**Answer: C**



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**3.** An alloy of gold and silver weighs 50 g. It contains 80% gold. How much gold should be added to the alloy so that percentage of gold is increased to 90? 30 g b. 40 g c. 50 g d. 60

A. 200 g

B. 150 g

C. 50 g

D. 10 g

**Answer: B**



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4. A candidate who gets 20% marks in an examination fails by 30 marks but another candidate who gets 32% gets 42 marks more

than the pass mark. Then the percentage of pass marks is

A. 0.52

B. 0.5

C. 0.33

D. 0.25

**Answer: D**



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5. In expressing a length 81.472 km as nearly as possible with three significant digits, find the percentage error.

A. 0.0034

B. 0.034%

C. 0.0034 %

D. 0.0038 %

**Answer: B**



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6. A reduction of 25% in the price of an article enables a man to buy 50 kilograms more for Rs 500. What is the reduced price per kilogram?

- A. 3
- B. 2.50
- C. 2.05
- D. 2.40

**Answer: B**



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7. A reduction of 20% in the price of oranges enables a man to buy 5 oranges more for Rs. 10/-. The price of an orange before reduction was:

A. 20 paise

B. 40 paise

C. 50 paise

D. 60 paise

**Answer: C**



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**8.** 85% and 92% alcoholic solutions are mixed to get 35 litres of an alcoholic solution. How many litres of each solution are there in the new mixture? 10 of the first and 25 of the second 20 of the first and 15 of the second 15 of the first and 20 of the second 12 of the first and 23 of the second

A. 10 L of the 1st, 25 L of the 2nd

B. 20 L of the 1st, 15 L of the 2nd

C. 15 L of the 1st, 20 L of the 2nd

D. none

**Answer: D**



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**9.** From 5 litres of a 20% solution of alcohol in water, 2 litres of solution' is taken out and 2 litres of water is added to it. Find the strength

of alcohol in the new solution. 10 % b. 12 % c.  
15 % d. 18 %

A. 0.12

B. 0.15

C. 0.16

D. 0.18

**Answer: A**



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10. The number of employees working in a farm is increased by 25% and the wages per head are decreased by 25%. If it results in x% decrease in total wages, then the value of x is

A. 0

B. 25

C. 20

D.  $\frac{25}{4}$

**Answer: D**



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11. If the price of a book is first decreased by 25% and then increased by 20% then the net change in the price will be a. no change b. 5% increase c. 5% decrease d. 10% decrease

A. 10% decrease

B. 5% decrease

C. No change

D. 5% increase



**Answer: A**



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**12.** The price of an article was increased by  $r\%$ . Later the new price was decreased by  $r\%$ . If the latest price was Re. 1, then the original price was :

A. 1

B.  $\frac{1 - r^2}{100}$

C.  $\frac{\sqrt{1 - r^2}}{100}$

D.  $\frac{10000}{10000 - r^2}$

**Answer: D**



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**13.** Price of a commodity has increased by 60%. By what per cent must a consumer reduce the consumption of the commodity so as not to increase the expenditure ?

A. 0.3

B. 0.35

C. 0.275

D. 0.375

**Answer: D**



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**14.** The price of an article is reduced by 25% but the daily sale of the article is increased by 30%. The net effect on the daily sale receipts is

A.  $2\frac{1}{2}$  % decrease

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

C. 2% decrease

D. 2% increase

**Answer: A**



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**15.** If the altitude of a triangle is increased by 10% while its area remains the same, its

corresponding base will have to be decreased

by

A. 0.1

B. 0.09

C.  $9\frac{1}{11}\%$

D.  $11\frac{1}{9}\%$

**Answer: C**



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16. In the expression  $xy^2$ , the values of both variables  $x$  and  $y$  are decreased by 20%. By this the value of the expression will be decreased by

A. 0.4

B. 0.8

C. 0.488

D. 0.512

**Answer: C**



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17. In a hotel 60% had vegetarian lunch while 30% had non vegetarian ,lunch and 15% had both types of lunch. If 96 people were present how many did not eat either type of lunch? 20  
b. 24 c. 26 d. 28

A. 20

B. 24

C. 26

D. 28

**Answer: B**



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**18.** A student took five papers in an examination, where the marks were the same on each paper. Her marks in these papers were in the proportion of 6:7:8:9:10. In all these papers together, the candidate obtained 60% of the total marks. Then the number of papers in which she got more than 50% marks is 2 b. 3 c. 4 d. 5 e. none of these



A. 1

B. 3

C. 4

D. 5

**Answer: C**



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**19.** In an examination 70% of the candidates passed in English, 80% passed in Mathematics. 10% failed in both the subjects if 144

candidates passed in both, the total number of candidates was :

एक परीक्षा में 70% प्रतियोगी अंग्रेजी में, 80% प्रतियोगी गणित में सफल होते हैं तथा 10% प्रतियोगी दोनों विषयों में असफल होते हैं। यदि 144 प्रतियोगी दोनों विषयों में सफल होते हैं, तो प्रतियोगियों की कुल संख्या क्या थी ?

A. 125

B. 200

C. 240

D. 375

**Answer: C**



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**20.** In a medical certificate, by mistake a candidate gave his height as 25% more than the actual. In the interview panel, he clarified his height was 5 feet 5 inches. Find the percentage correction made by the candidate from his stated height to his actual height.

A. 28.56

B. 20

C. 25

D. 24

**Answer: B**



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**21.** A 20% hike in bus fare resulted in a 10% fall in passenger traffic, still the daily collection at the bus depot increased by Rs 150. The daily collection at the depot after the fare hike is

A. 1600

B. 1750

C. 2025

D. 1875

**Answer: C**



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**22.** If A's salary is 25% higher than B's salary, then how much per cent is B's salary lower than that of A's ?



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**23.** In an examination which full marks were 800, A gets 205 more than B gets 20% more than C, and C gets 15% less than D. If A got 576 what percentage of full marks a did D get (approximately) 45. 7 b. 51. 2 c. 58. 8 d. 61. 7

A. 45.7

B. 51.2

C. 58.8

D. 61.7

**Answer: C**



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**24.** A father gives 1% of his monthly salary to his two sons as pocket money. The elder son gets 80% of the total amount given to the two sons and he spends 80% of his share. If he saves 20 every month, then the monthly salary of the father is

A. 10000

B. 11500

C. 12500

D. 12000

**Answer: D**



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**25.** In an examination Mohit obtained 20% more marks than Sushant but are 10% less than Rajesh. If the marks obtained by Sushant



are 1080, find the percentage of marks obtained by Rajesh, if the full. marks are 2000.



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**26.** Mira's expenditure and savings are in the ratio 3:2. Her income increases by 10%. Her expenditure also increases by 12%. By how much % do her - savings increase?



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27. A tax payer is exempted of income tax for the first 100000 of his annual income but for the rest of the income, he has to pay a tax at the rate of 20%. If he paid 3160 as income tax for a year, his monthly income is

A. 11580

B. 103160

C. 13610

D. 9650

**Answer: D**



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28. Mrs. Sharma invests 15% of her monthly salary, Le., 4428 in Mutual funds. Later she invests 18% of her monthly salary on Pension plans, also she invests another 9% of her salary on Insurance policies. What is the total monthly amount invested by Mrs. Sharma ?

A. 1,13,356.80

B. 12398.4

C. 56, 678,40

D. None of these

**Answer: B**



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**29.** A house-owner was having his house painted. He was advised that he would require 25 kg of paint. Allowing for 15 % wastage and assuming that the paint is available in 2 kg cans, what would be the cost of paint purchased, if one can costs Rs. 16?

A. 240

B. 180

C. 120

D. 360

**Answer: D**



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**30.** 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 extent that she has to pay Rs 2568, inclusive of value added tax. Find the reduction needed in the price of the radio.

A. 179

B. 170

C. 168

D. ₹169

**Answer: C**



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## Self Assessment Sheet Section A Percentage

1. A solution contains 15 % of salt, from which 30 kg of water is removed. The quantity of salt remains 20 % in that solution. Find the initial quantity of solution.

A. 100 kg

B. 110 kg

C. 115 kg

D. 120 kg

**Answer: D**



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2. Ram ordered for 6 black toys and some additional brown toys. The price of a black toy is  $2\frac{1}{2}$  times that of a brown toy. While preparing the bill, the clerk interchanged the number of black toys with the number of brown toys which increased the bill by 45%. The number of brown toys is:



A. 8

B. 6

C. 15

D. 12

**Answer: C**



**Watch Video Solution**

**3.** In an election between two candidates. 10% of voters did not cast their votes. 60 votes were found invalid. A candidate got 47% of

votes and won by a majority of 308 votes. find the total number of votes.

A. 6200

B. 5580

C. 6000

D. 7200

**Answer: B**



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4. Princes register an increase of 10% on foods grains and 15% on other items of expenditure. If the ratio of an employees expenditure on food grains and other items be 2:5, by how much should his salary be increased in order that he may maintain the same level of consumption as before, this present salary being Rs. 2590?  
*Rs.323.75* b. *Rs.350* c. *Rs.360.50* d. none of these

A. 323.75

B. 350

C. 360.5

D. 351.5

**Answer: D**



**Watch Video Solution**

5. In a recent survey 25% houses contained two or more people. Of those houses containing only one person 20% were having only a male. What is percentage of all houses

which contain exactly one female and no males?

A. 0.55

B. 0.65

C. 0.6

D. 0.5

**Answer: C**



**Watch Video Solution**

6. One kg of tea and one kg of sugar together cost 95. If the price of tea falls by 10% and that of sugar rises by 20%, then the price of one kg of each combined comes to 90. The original price of tea in per kg is:

A. 72

B. 55

C. 60

D. 80

**Answer: D**



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7. On increasing the price of TV sets by 30%, their sale decreases by 20%, what is the effect on the revenue receipts of the shop ?

A. 16% decrease

B. 16% increase

C. 20% increase

D. 20% decrease

**Answer: A**



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8. There are some coins and rings of either gold or silver in a box. 60% of the objects are gold or silver in a box. 60% of the objects are coins. 40% of the rings are of gold and 30% of the coins are silver. What is the percentage of gold articles?

A. 16

B. 27

C. 58



D. 70

**Answer: D**



**View Text Solution**

9. The income of A is 20% higher than that of 'B'. The income of 'B' is 25% less than that of 'C'. What per cent less is A's income from C's income?

A. 0.07

B. 0.08

C. 0.1

D. 0.125

**Answer: C**



**Watch Video Solution**

**10.** A reduction of 25% in the price of rice enables a person to buy 10 kg more rice for 600. The reduced price per kg of rice is:

A. 30

B. 25

C. 35

D. 15

**Answer: D**



**Watch Video Solution**

**Question Bank Section B Profit And Loss**

1. If an article is sold for Rs. 178 at a loss of 11%, what should be its selling price in order to earn a profit of 11% ?

A. 222.5

B. 267

C. 222

D. 220

**Answer: C**



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2. If I would have purchased 11 articles for Rs. 10 and sold all the articles at the rate of 10 for Rs. 11, the profit per cent would have been:

A. 0.1

B. 0.11

C. 0.21

D. 1

**Answer: C**



**Watch Video Solution**

3. On selling 100 pencils a man gains the selling price of 20 pencils. His gain per cent is

A. 0.25

B. 0.2

C. 0.15

D. 0.12

**Answer: A**



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4. An article is sold at a loss of 10%. Had it been sold for Rs. 9 more, there would have been a gain of 12.5% on it. The cost price of the article is :

A. 40

B. 45

C. 50

D. 35

**Answer: B**



**Watch Video Solution**

5. A shopkeeper sells a pair of sunglasses at a profit of 25%. If he had bought it at 25% less and sold it for Re 10 less, then he would have gained 40%. The cost price of the pair of sunglasses is

A. 25

B. 50

C. 60

D. 70



**Answer: C**



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6. If a man reduces the selling price of a fan from Rs. 400 to Rs. 380, his loss increases by 2%. The cost price of the fan is *Rs.480* b. *Rs.500* c. *Rs.600* d. none of these

A. 600

B. 480

C. 500

D. 450

**Answer: D**



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7. Mukesh purchased 40 kg of wheat at 12.50 per kg and 25 kg of wheat at 15.10 per kg. He mixed the two qualities of wheat for selling. At what rate should it be sold to gain 10%?

A. 13.25

B. 13.5

C. 14.75

D. 14.85

**Answer: D**



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**8.** A sells a box to B at a profit of 15%, sells the same to C for 1012 and makes a profit of 10%  
A's cost price is

A. 720

B. 680

C. 880

D. 800

**Answer: D**



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9. A wholesale dealer sold his goods to a retail dealer at a profit of  $12\frac{1}{2}\%$ . The retail dealer

gained 20% by selling the goods for 3240. The cost price of the whole sale dealer was

A. 2625

B. 2575

C. 2500

D. 2400

**Answer: D**



**Watch Video Solution**

10. A bought a radio set and spent Rs. 110 on its repairs. He then sold it to B at 20% profit, B sold it to a loss of 10% C sold it for Rs. 1188 at a profit of 10%. What is the amount for which A bought the radio set? *Rs.850* b. *Rs.890* c. *Rs.930* d. *Rs.950*

A. 850

B. 890

C. 1000

D. 950

**Answer: B**



**Watch Video Solution**

**11.** A dishonest dealer uses a scale of 90 cm instead of a metre scale and claims to sell at cost price. His profit is 9 % b. 10 % c. 12 % d. none of these

A. 0.09

B. 0.1

C.  $10 \frac{9}{11} \%$

D.  $11\frac{1}{9}\%$

**Answer: D**



**Watch Video Solution**

**12.** A dishonest dealer professes to sell his goods at cost price by using a false weight and thus gains  $11\frac{1}{9}\%$  For weighing a kilogram, he uses a weight of

A. a weight of 875 gm



B. a weight of 900 gm

C. a weight of 950 gm

D. a weight of 850 gm

**Answer: B**



**Watch Video Solution**

**13.** A horse and a carriage together cost 8000.

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 horse?

A. 3000

B. 6000

C. 2000

D. 5000

**Answer: D**



**Watch Video Solution**

14. A television and a washing machine were sold for 12500 each. If the television was sold at a gain of 30% and the washing machine at a loss of 30%, then the entire transaction resulted in

A. 9% gain

B. 9% loss

C. 11% gain

D. Neither gain nor loss

**Answer: B**



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**15.** Shridhar bought two buffaloes for 30,000. By selling one at a loss of 15% and the other at a gain of 19%, he found that selling price of both buffaloes is the same. Find the cost price of each (in ).

A. 10000, 20000

B. 15000, 15000

C. 17500, 12500

D. 16000: 14000

**Answer: C**



**View Text Solution**

**16.** On selling each of the two radios for 5000, a person neither gained nor lost. If he had sold one radio at 25% gain, then at what per cent loss did she sell the 2nd radio?

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

B.  $18 \frac{2}{9} \%$

C. 0.25

D.  $26 \frac{2}{3} \%$

**Answer: A**



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**17.** A clock was sold for Rs. 144. If the percentage of profit was numerically equal to the cost price, the cost of clock was *Rs.72* b.

*Rs.80* c. *Rs 90* d. *Rs.100*

A. 100

B. 90

C. 85

D. 80

**Answer: D**



**Watch Video Solution**

**18.** A shopkeeper sold one-fourth of his goods at a loss of 10%. He sold the remaining at a higher per cent of profit to get  $12\frac{1}{2}\%$  profit

on the whole. transaction. The higher profit per cent is

A.  $17 \frac{1}{2} \%$

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

C.  $22 \frac{1}{2} \%$

D. 0.2

**Answer: D**



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19. A man buys a field of agricultural land for 3,60,000. He sells one-third at a loss of 20% and  $\frac{2}{5}$  th at a gain of 25%. At what price must he sell the remaining field so as to make an overall profit of 10%?

A. 1,00,000

B. 1,15,000

C. 1,20,000

D. 1,25,000

**Answer: C**



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20. A person purchases 90 clocks and sells 40 clocks at a gain of 10% and 50 clocks at a gain of 20%. If he sold all of them at a uniform profit of 15%, then he would have got 40 less.

The cost price of each clock is:

A. 50

B. 60

C. 80

D. 90

**Answer: C**



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**21.** Mani bought two horses at 20,000 each. He sold one horse at 15% gain. But he had to sell the second horse at a loss. If he had suffered a loss of 1800 on the whole transaction, find the selling price of the second horse.

A. 10000

B. 15000

C. 15200

D. 12000

**Answer: C**



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22. Vineet calculates his profit percentage on the selling price whereas Roshan calculates his profit on the cost price. They find the difference of their profits is Rs. 27. If the selling

price of both of them are the same and Vineet gets 25% profit whereas Roshan gets 15 profit, find their selling price. *Rs.*2100 b. *R.*2300 c. *Rs.*2250 d. *Rs.*2350

A. 2100

B. 2300

C. 2350

D. 2250

**Answer: B**



**Watch Video Solution**

23. If 7% of the sale price of an article is equivalent to 8% of its cost price and 9% of its sale price exceeds 10% of its cost price by 1, then what is the cost of the article?

A. 400

B. 350

C. 300

D. 280

**Answer: B**



Watch Video Solution

24. A shopkeeper sells tea at 10% profit and uses a weight which is 20% less than the actual measure. His gain per cent is

A. 0.3

B. 0.35

C.  $37 \frac{1}{2} \%$

D. 0.32

**Answer: C**



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25. Some lollipopse are bought at 11 for a rupee and the same number at 9 a rupee if the whole lot is sold at 10 a rupee find the gain or loss per cent

A. 2% gain

B. 2% loss

C. 1 % gain

D. 1 % loss



**Answer: D**



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**26.** Rajeshwar bought 16 dozen ball point pens and sold them by and by. Due to a calculation mistake in fixing selling price, he lost an amount equal to S.P. of 4 dozen pens. Find the loss per cent. Find the S.P. of one dozen pens, if he purchased these 16 dozen pens for 240.

A. 18

B. 10

C. 12

D. 14

**Answer: C**



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**27.** On selling a pen at 5% loss and a book at 15% gain, Karim gains Rs 7. If he sells the pen at 5% gain and the book at 10% gain, then he gains Rs 13. The actual price of the book is

A. 100

B. 80

C. 10

D. 400

**Answer: A**



**Watch Video Solution**

**28.** A man purchased a scooter for RS 6250 and sold it at 8% profit. He purchased another scooter for RS 3750. After selling it, he found

that he has gained 2% on the whole. Then in the sale of the second scooter, he has

- A. 8% loss
- B. 8% gain
- C. 10% gain
- D. 6% loss

**Answer: A**



**Watch Video Solution**

29. Albert buys 4 horses and 9 cows for 713,400. If he sells the horses at 10% profit and the cows at 20% profit, then he earns a total profit of ₹ 1880. The cost of a horse is *Rs.*1000

b. *Rs.*200 c. *Rs.*2000 d. *Rs.* 3000

A. 1000

B. 2000

C. 2500

D. 3000

**Answer: B**



Watch Video Solution

30. A cloth merchant sold half of his cloth at 20% profit, half of the remaining at 20% loss and the rest was sold at the cost price. In the total transaction, his gain or loss will be a. Neither loss nor gain b. 5 % loss c. 5 % gain d. 10 % gain

A. Neither gain nor loss

B. 5 % loss

C. 5 % gain

D. 10% gain

**Answer: C**



**Watch Video Solution**

## **Self Assessment Sheet Section B Profit And Loss**

1. An article is sold for Rs 500 and hence a merchant loses some amount. Had the article been sold for Rs 700, the merchant would

have gained three times the former loss. The cost price of the article is:

A. Rs 525

B. Rs 500

C. Rs 600

D. Rs 650

**Answer: B**



**Watch Video Solution**



2. A man purchased a table and a chair for Rs 2000. He sold the table at a profit of 20% and the chair at a profit of 30%. His total profit was 23%. Find the cost price of the table.

A. Rs1400

B. Rs600

C. Rs1100

D. Rs1200

**Answer: A**



Watch Video Solution

3. A retailer bought some apples rate of 7 apples for Rs 4 and sold them rate of 8 apples for Rs 5. If he gains Rs 30 on that day, the quantity of apples sold by him on that day is:

A. 555

B. 560

C. 565

D. 570

**Answer: B**



**Watch Video Solution**

4. Sunil buys 2500 Kg of wheat,  $\frac{1}{5}$  of which he sells at a gain of 5%,  $\frac{1}{4}$  at a gain of 10%,  $\frac{1}{2}$  at a gain of 12% and the remainder at a gain of 16%. If he had sold the whole wheat at a gain of 11%. He would have made 7 87.50 more. What was the cost price of wheat per Kg.

A. Rs 5

B. Rs 2

C. Rs 3

D. Rs 2.50

**Answer: B**



**Watch Video Solution**

5. An article is sold at a profit of 20%. If both the cost price and selling price were to be Rs 20 less, the profit would be 10% more. Find the cost price of the article.

A. Rs120

B. Rs80

C. Rs60

D. Rs75

**Answer: C**



**Watch Video Solution**

**6.** A shopkeeper sells 100 kg of sugar partly at 10% profit and the remaining at 20% profit. If

he gains 12% on the whole transaction, how much sugar did he sell at 20% profit?

A. 25 kg

B. 40 kg

C. 20 kg

D. 30 kg

**Answer: C**



**Watch Video Solution**

7. A manufacturer sells his goods to a wholesaler at 10% gain, the wholesaler to the retailer at 20% gain and the retailer to the customer at 30% gain. Find what per cent the customer has to pay more on the manufactured price?

A. 0.6

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

C.  $48\frac{1}{5}\%$

D.  $71\frac{3}{5}\%$

**Answer: D**



**Watch Video Solution**

**8.** A woman buys toffees at Rs 2.50 a dozen and an equal number at Rs 3 a score. She sells them at Rs 3.60 a score and thus makes a profit of Rs 10. How many toffees did she buy?

A. 10000

B. 12000

C. 5000



D. 6000

**Answer: B**



**Watch Video Solution**

9. Three tables are purchased for Rs 2500 each. First is sold at a profit of 8%, the second is sold at a loss of 3%. If their average selling price is Rs 2575, find the profit per cent on the third.

A. 0.06

B. 0.05

C. 0.04

D. 0.08

**Answer: C**



**Watch Video Solution**

**10.** A person sells his T.V. at 25% profit of the cost price. If he sells his T.V. at 25% profit of the selling price then his profit is increased by (5 % of C.P. + 8 Rs.). Find the cost price of T.V.

A. Rs6000

B. Rs8000

C. Rs10000

D. Rs7500

**Answer: B**



**Watch Video Solution**

**Question Bank Section C Discount**

1. A man buys an article for Rs 80 and marks it at Rs 120, He then allows a discount of 40%.

What is the loss or gain%?

A. 12% gain

B. 12% loss

C. 10% gain

D. 10% loss

**Answer: D**



**Watch Video Solution**

2. Ramesh bought a calculator with 20% discount on the tag-price. He obtained 10% profit by selling it for Rs 440. What was the tag-price?

A. Rs500

B. Rs400

C. Rs480

D. Rs360

**Answer: A**



**Watch Video Solution**

3. A dealer allows 25% discount on the marked price of articles and earns a profit of 20% on them. What is the marked price of the article on which he gains Rs 800?

A. Rs6000

B. Rs6400

C. Rs7200

D. Rs7000

**Answer: B**



**Watch Video Solution**

4. Shekhar has purchased a cordless phone for Rs 3520 after getting 12% discount on the printed price. If he sold it to get 8% profit on the printed price, at what price did he sell the cordless phone?

A. Rs3801.60

B. Rs4244

C. Rs4320

D. Rs3942.40

**Answer: C**



**Watch Video Solution**

5. An article listed at Rs. 800 is sold at successive discounts of 25% and 15%. The buyer desires to sell it off at a profit of 20% after allowing a 10% discount. What would be his list price ?



A. Rs620

B. Rs600

C. Rs640

D. Rs680

**Answer: D**



**Watch Video Solution**

6. By selling an umbrella for Rs. 300, a shopkeeper gains 20%. During a clearance sale, the shopkeeper allows a discount of 10%

on the marked price. His gain percent during the sale is 7 b. 8 c. 9 d. 7. 5

A. 0.1

B. 0.08

C. 0.12

D. 0.09

**Answer: B**



**Watch Video Solution**

7. What is more favourable for a buyer-A discount series of 20%, 15% and 10% or a discount series of 25%, 12% and 8% ?

A. First

B. second

C. Both first and second

D. none

**Answer: B**



**Watch Video Solution**

8. A trader marks the sale price 25% more on cost price and gives a 10% discount at the time of selling. The gain per cent is

A. 12.5

B. 35

C. 15

D. 17.5

**Answer: A**



**Watch Video Solution**

9. By selling an article at 80% of the marked price, there is a loss of 10%. If the article is sold at the marked price, the profit per cent will be

A. 18.4

B. 20

C. 12.5

D. 15

**Answer: C**



**Watch Video Solution**

**10.** The marked price of an electric iron is Rs 300. The shopkeeper allows a discount of 12% and still gains 10%. If no discount is allowed his gain percentage would have been

A. 20

B. 25

C. 27

D. 30

**Answer: B**



**Watch Video Solution**

**11.** A sells a scooter priced at Rs. 36000. He gives a discount of 8% on the first Rs. 20000 and 5% on the next Rs. 10000. How much discount can he afford on the remaining Rs. 6000 if he is to get as much as when 7% discount is all on the total? 5 % b. 6 % c. 7 %  
d. 8 %

A. 0.05

B. 0.06

C. 0.07

D. 0.08

**Answer: C**



**Watch Video Solution**

**12.** If 10% discount is allowed on the marked price of an article, the profit of a dealer is 20%. If he allows a discount of 20% his profit will be



A.  $4\frac{1}{3}\%$

B. 0.05

C.  $6\frac{2}{3}\%$

D. 0.08

**Answer: C**



**Watch Video Solution**

**13.** A fan is listed at Rs. 1500 and a discount of 20% is offered on the list price. What additional discount must be offered to the

customer to bring the net price to Rs. 1104?

8 % b. 10 % c. 12 % d. 15 %

A. 0.08

B. 0.1

C. 0.12

D. 0.15

**Answer: A**



**Watch Video Solution**

14. At what percent above the cost price must a shopkeeper mark his goods so that he gains 20% even after giving a discount of 10% on the marked price? 25 % b. 30 % c.  $33\frac{1}{3}$  % d.  $37\frac{1}{2}$  %

A. 0.25

B. 0.3

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

D.  $37\frac{1}{2}$  %

**Answer: C**



Watch Video Solution

15. A shopkeeper sells a badminton racket, whose marked price is Rs. 30, at a discount of 15% and gives a shuttle cock costing Rs. 1.50 free with each racket. Even then he makes a profit of 20%. His cost Price per racket is *Rs.19.75* b. *Rs.20* c. *Rs.21* d. *Rs.21.25*

A. Rs21

B. Rs21.25

C. Rs20

D. Rs19.75

**Answer: C**



**Watch Video Solution**

**16.** The price of an article is raised by 30% and then two successive discounts of 10% each are allowed. Ultimately, the price of the article is  
Decreased by 5.3% Increased by 3% Increased by 5.3% Increased by 10%

A. Increased by 10%

B. Increased by 5.3%

C. Decreased by 3%

D. Decreased by 5.3%

**Answer: D**



**Watch Video Solution**

**17.** A dealer buys an article listed at Rs. 100 and gets successive discounts of 10% and 20%. He spends 10% of the cost price on

transportation. At what price should he sell the article to earn a profit of 15% ?

A. Rs90

B. Rs90.02

C. Rs91.08

D. 91.28

**Answer: C**



**Watch Video Solution**

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

A. 0.06

B. 0.08

C. 0.1

D. 0.12

**Answer: B**



**Watch Video Solution**



**19.** The marked price of a shirt and trousers are in the ratio 1:2. The shopkeeper gives 40% discount on the shirt. If the total discount on the set of the shirt and trousers is 30%, the discount, offered on the trousers is

A. 0.15

B. 0.2

C. 0.25

D. 0.3

**Answer: C**



Watch Video Solution

20. Even after reducing the marked price of a pen by Rs 32, a shopkeeper makes a profit of 15%. If the cost price be Rs 320, what percentage of profit does he make if he sells the pen at the marked price?

A. 0.1

B. 0.2

C. 0.25

D. 0.12

**Answer: C**



**Watch Video Solution**

**21.** A shoemaker earns a profit of 15% after selling a book at 20% discount on the printed price .the ratio of the cost price and the printed price of the book is

**A. 16: 23**

B. 20 : 23

C. 23 : 16

D. 23 : 20

**Answer: A**



**Watch Video Solution**

22. A shopkeeper marks his goods at 20% above the cost price. He sells three-fourths of his goods the marked price. He sells the remaining goods at 50% of the marked price.

Determine his profit per cent on the whole transaction.

A. 0.1

B. 0.08

C. 0.05

D. 0.07

**Answer: C**



**Watch Video Solution**

23. Two shopkeepers announce the same price of Rs. 700 for a sewing machine. The first offers successive discounts of 30% and 6% while the second offers successive discounts of 20% and 16%. The shopkeeper that offers better discount charges less than the other shopkeeper. *Rs.9.80* b. *Rs.16.80* c. *Rs.22.40* d. *Rs.36.40*

A. 20.4

B. 16.8

C. 9.8

D. 36.4

**Answer: C**



**Watch Video Solution**

**24.** A trader marked the selling price of an article at 10% above the cost price. At the time of selling, he allows certain discount and suffers a loss of 1%. He allowed a discount of 9 % b. 10 % c. 11 % d. 10.5 %

**A. 0.09**

B. 0.1

C. 0.105

D. 0.11

**Answer: B**



**Watch Video Solution**

**25.** Peter 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?

7. 5 b. 8 c. 12 d. 10 e. none of these

A. 7.5

B. 8

C. 10

D. 12

**Answer: D**



**Watch Video Solution**

**26.** Kunal bought a suitcase with 15% discount on the labelled price. He sold the suitcase for Rs. 2880 with 20% profit on the labelled price. At what price did he buy the suitcase?  
*Rs.2040* b. *Rs.2400* c. *Rs.2604* d. *Rs.2640* e.  
none of these

A. Rs2040

B. Rs2400

C. Rs2604

D. Rs2640

**Answer: A**



**Watch Video Solution**

27. A shopkeeper sold an article offering a discount of 5% and earned a profit of 23.5%.

What would have been the percentage of profit earned if no discount was offered? 24.5

b. 28. c. 30 d. data inadequate e. none of these

A. 24.5

B. 25

C. 28.5

D. 30

**Answer: D**



**Watch Video Solution**

**28.** A shopkeeper sold an article for Rs 6750 after giving a discount of 10% on the labelled price. He would have earned a profit of 50%, had there been no discount. What was the actual percentage of profit earned?

A. 36

B. 40

C. 44

D. 35

**Answer: D**



**Watch Video Solution**

**29.** A retailer gets a discount of 40% on the printed of an article. The retailer sells it at the

printed price. What is the gain or loss per cent ?

A. 12% gain

B.  $\frac{200}{3}$  % gain

C. 10% gain

D. 10% loss

**Answer: B**



**Watch Video Solution**

**30.** A trader marked his goods at 20% above the cost price. He sold half the stock at the marked price, one quarter at a discount of 20% on the marked price and the rest at a discount of 40% on the marked price. His total gain is 2 % b. 4. 5 % c. 15 % d. 13. 5 %

A. 0.02

B. 0.045

C. 0.135

D. 0.15

**Answer: A**



**Watch Video Solution**

## Self Assessment Sheet Section C Discount

1. Two dealers offer an article at the same list price. The first allows discount 20%, 10% and 5% and the other of 15%, 12% and 8%. Which is a better offer for the customer?

A. 1st offer



B. 2st offer

C. Both 1st offer and 2nd offer

D. Cannot be determined

**Answer:**



**Watch Video Solution**

2. If a discount of 10% is given to a customer on the marked price of an article, the gain of the trader is 20%. What will be the gain per

cent of the trader if the discount is increased to 15%?

A.  $12 \frac{1}{2} \%$

B.  $13 \frac{1}{3} \%$

C.  $14 \frac{1}{4} \%$

D.  $15 \frac{1}{5} \%$

**Answer: B**



**Watch Video Solution**

3. A tradesman allows a discount of 15% on the written price. How much above the cost price should he mark his goods to make a profit of 19%?

A. 0.2

B. 0.4

C. 0.3

D. 0.25

**Answer:**



Watch Video Solution

4. 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. 0.15

B. 0.18

C. 0.2

D. 0.25

**Answer:**



**Watch Video Solution**

5. A shopkeeper claims to sell his articles at a discount of 10%, but marks his articles by increasing the cost of each by 20%. His gain per cent is:

A. 0.06

B. 0.08

C. 0.1

D. 0.12

**Answer:**



**Watch Video Solution**

**6.** A seller allows a discount of 5% on a watch.

If he allows a discount of 7% he earns Rs. 15

less in profit. What is the marked price ?

*Rs.697.50* b. *Rs.712.50* c. *Rs.750* d. *Rs.817.50*

A. Rs 697.50

B. Rs 712.50

C. Rs 750

D. Rs 817.50

**Answer:**



**Watch Video Solution**

7. A shopkeeper sold an air-conditioner for Rs. 25935 with a discount of 9% and earned a profit of 3.74%. What would have been the percentage of profit if no discount were

offered? 12. 3 % b. 16 % c. 15. 6 % d. none of these

A. 0.123

B. 0.156

C. 0.16

D. 0.14

**Answer:**



**Watch Video Solution**



8. On selling an article at a discount of 20%, the profit is 20%. Find the profit per cent if the article is sold at a discount of 10%.

A. 0.25

B. 0.3

C. 0.15

D. 0.35

**Answer:**



**Watch Video Solution**

9. A trader bought some goods at a discount of 20% of the list price. He wants to mark them at such a price that he can give a discount of 20% on the marked price and still make a profit of 25%. Find the per cent of the list price at which he should mark the goods.

- A. 25% above the list price
- B. 15% below the list price
- C. 25% below the list price
- D. 15% above the list price

**Answer:**



**Watch Video Solution**

**10.** In one shop, an article is marked 75% above the cost price, but the purchaser is allowed a discount of 20% on the marked price. In another shop a similar article is sold for Rs 58 at a gain of 45%. What did the purchaser pay for this article in the first shop?

A. Rs60

B. Rs56

C. Rs62

D. Rs6

**Answer:**



**Watch Video Solution**