

CHAPTER 8

APPLICATION OF PERCENTAGES

More Questions for Practice

Profit and Loss

1. A machine was sold for ₹ 6,600. If its cost price is ₹ 7,500, what is the loss or gain?
2. A shopkeeper bought 20 reams of paper at the rate of ₹ 120 a ream. If he sells all of these for ₹ 2,000, what will be his gain or loss?
[Hint: C.P. = ₹ 120 × 20 = ₹ 2,400]
3. A fruit seller buys a basket of 120 oranges for ₹ 300. He sells the oranges at ₹ 27 a dozen. Find his gain or loss.
4. Harish bought a second-hand television for ₹ 1,800 and spent ₹ 150 on its repairs. He sold it for ₹ 1,600. Find his profit or loss.
5. A shopkeeper bought 288 oranges for ₹ 480. He sold 150 of these at ₹ 2.50 each and the remaining for ₹ 240. Find his profit or loss.
6. Fatima bought 1,200 eggs at ₹ 16 a dozen. She spent ₹ 80 on overhead expenses. She sold these eggs at ₹ 1.25 each. Find her profit or loss.
7. A cloth merchant bought 25 sarees at the rate of ₹ 310 per saree. If he sold them for ₹ 7,500; find the profit or loss.
8. A fruit seller buys oranges at 8 for ₹ 5 and sells them at 5 for ₹ 4. Find his percentage gain or loss.
9. A woman buys a car for ₹ 80,000 and sells it two years later for ₹ 45,000. Calculate her loss over two years as a percentage of the cost price.
10. A company manufactures electrical items for the kitchen. Find the percentage profit on each of the following:

(a) Cooker	C.P. ₹ 800	S.P. ₹ 960
(b) Fridge	C.P. ₹ 4,000	S.P. ₹ 5,200
(c) Washing Machine	C.P. ₹ 5,000	S.P. ₹ 5,500
(d) Microwave	C.P. ₹ 2,100	S.P. ₹ 2,520.
11. A fruit vendor buys a basket of 100 oranges for ₹ 300. He sells the oranges at ₹ 70 a score. Find his percentage gain or loss.
[Hint: 1 score = 20 articles]
12. Ravi purchased a hutment for ₹ 44,100 and spent ₹ 3,900 on its repairs. He had to sell it for ₹ 45,600. Find his percentage loss.
13. A market trader buys oranges in boxes of 12 dozens for ₹ 70 per box. He buys five boxes and sells all the oranges for 70 paise each. What is his percentage profit or loss?
14. By selling an article for ₹ 400, a dealer loses ₹ 100. At what price should he sell the article to gain 8%?

15. By selling a watch for ₹ 144, a man loses 10%. At what price should he sell it to gain 10%?
16. A fan is sold for ₹ 658 at a loss of 6%. At what price should it be sold to lose 2% only?
17. A sells a radio to B at a gain of 10% and B sells it to C at a loss of 10%. If C pays ₹ 495 for it, what did A pay for it?
18. By selling an article for ₹ 480, one loses ₹ 20. Find the percentage loss.
19. By selling a radio for ₹ 680, a girl loses ₹ 120. In order to gain ₹ 120, at what price should she sell the radio?
20. A table lamp was sold for ₹ 850 at a loss of 15%. Find its cost price.
21. A decrease of 20% in the price of sugar enables a man to get 2 kg more sugar for ₹ 150. Find the original as well as reduced price of sugar per kg.
22. A farmer bought a buffalo for ₹ 4,400 and a cow for ₹ 1,800. He sold the buffalo at a loss of 5% but made a profit of 10% on selling a cow. What is the net result of the transaction to him?
23. Karim purchased a laptop for ₹ 35,970 and spent ₹ 530 on its repairs. To make a profit of 5%, how much he should sell it for?
24. A man sold two cars for ₹ 99000 each. On one he gains 10% and on the other he loses 10%. How much does he gain or lose in the whole transaction?
25. A man sells a radio set for ₹ 3450 and makes a profit of 15%. He sells a second radio set at a loss of 10%. If on the whole he neither gains nor loses, find the cost price of the second radio set.
26. If the selling price of 9 articles is equal to the cost price of 15 articles, what is the gain per cent?
27. A retailer buys 240 metres of cloth from a manufacturer for ₹ 1296. He sells three-fourths of it at a profit of $33\frac{1}{3}\%$ and the remainder at a loss of 10%. What profit per cent does he make on the deal?
28. A coal merchant makes a profit of 20% by selling firewood at ₹ 25 per quintal.
 - (a) What did 240 quintals of firewood cost him?
 - (b) If he sells the firewood at ₹ 22.50 per quintal, what is his profit per cent on the whole investment?

Simple Interest

1. What rate of interest is paid on a deposit of ₹ 1,000 which earns ₹ 400 interest in 5 years?
2. How long will it take for a sum of ₹ 2,500 invested at 6% per year to earn interest of ₹ 800?
3. A principal of ₹ 2,400 earns ₹ 360 interest in 3 years. What is the rate of interest?
4. ₹ 7,500 invested for 11 years, become ₹ 12,450 in total. What is the rate of interest?
5. How long will it take a principal to become *treble* at 10% per annum?
6. Find the interest on ₹ 4,000 for 2 years at 8% per annum.
7. Find the interest on ₹ 7,600 for 3 years at 10% per annum.

8. A loan of ₹ 4,500 was paid after 4 years with ₹ 5,490. Find the rate of interest charged.
9. In what time a sum of money earns one-tenth of the sum as interest at 5% per annum?
10. Mr. Ashish borrowed ₹ 12,000 from his friend at $1\frac{1}{2}\%$ per month. At the end of the first year he paid back ₹ 5,000 along with the interest due till then. The remaining amount and interest due was fully cleared 3 years after he had borrowed the money. How much interest did Mr. Ashish pay to his friend?
11. What amount will be received for depositing ₹ 500 after $2\frac{1}{2}$ years at the rate of 8% per annum?
12. Hamid and Rukhsana borrowed ₹ 6,000 and ₹ 5,000 respectively for a period of 3 years. Hamid paid interest at the rate of 10% per annum and Rukhsana at the rate of 12% per annum. What is the difference of the amounts paid by them?
13. Ahmed lends ₹ 3,500 to Bharat at the rate of 10% per annum and Bharat lends the borrowed sum to Charlie at the rate of 12% per annum. Find out the gain of Bharat in a period of $2\frac{1}{2}$ years.
14. The simple interest on a certain sum for 5 years at 8% p.a. is ₹ 200 less than the simple interest on the same sum for 3 years and 4 months at 18% p.a. Find the sum.
15. What sum of money lent out at simple interest at $4\frac{1}{2}\%$ per annum for 3 years will produce the same interest as ₹ 450 lent out at 3% per annum for $2\frac{1}{2}$ years?
16. If the rate of interest per year is reduced from $8\frac{1}{2}\%$ to $7\frac{3}{4}\%$, find the decrease in half-yearly interest on ₹ 2400.
17. The simple interest on a sum for 3 years 6 months at 9% per annum is ₹ 340 more than the interest on the same sum for $2\frac{1}{2}$ years at 11%. Find the sum.
18. At what rate per cent simple interest per annum, will a sum of money earn interest equal to $\frac{3}{5}$ of the principal in 4 years?
19. What sum of money will amount to ₹ 1199 in 3 years at 12.5% per annum?
20. Vaman borrows ₹ 60000 from the company he is working in, at 9% per annum for 2 years. He lends this sum to Raman at 10% per annum for two years. How much will Vaman earn from this transaction?

ANSWERS

Profit and Loss

1. Loss of ₹ 900
2. Loss of ₹ 400
3. Loss of ₹ 30
4. Loss of ₹ 350
5. Gain of ₹ 135
6. Loss of ₹ 180
7. Loss of ₹ 250
8. 28% gain

9. 43.75% 10. (a) 20% (b) 30% (c) 10% (d) 20% 11. $16\frac{2}{3}\%$ gain
12. 5% loss 13. 44% profit 14. ₹ 540 15. ₹ 176
16. ₹ 686 17. ₹ 500 18. 4% 19. ₹ 920
20. ₹ 1000 21. ₹ 18.75; ₹ 15 22. Loss of ₹ 40 23. ₹ 38,325
24. ₹ 2000 (loss) 25. ₹ 4500 26. Gain of $66\frac{2}{3}\%$ 27. $22\frac{1}{2}\%$
28. (a) ₹ 5000 (b) 8%.

Simple Interest

1. 8% p.a. 2. $5\frac{1}{3}$ years 3. 5% p.a. 4. 6% p.a.
5. 20 years 6. ₹ 640 7. ₹ 2,280 8. 5.5% p.a.
9. 2 years 10. ₹ 4,680 11. ₹ 600 12. ₹ 1,000
13. ₹ 175 14. ₹ 1000 15. ₹ 250 16. ₹ 9
17. ₹ 8500 18. 15% 19. ₹ 872 20. ₹ 1200.

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