Mathematics

| Board – ICSE | Class – 9 | Topic – Compound Interest (Using Formula) |

1. The difference between simple interest and compound interest on a certain sum is ₹ 54.40 for 2 years at 8 per cent per annum. Find the sum.

2. A sum of money, invested at compound interest, amounts to ₹ 19,360 in 2 years and to ₹23,425.60 in 4 years. Find the rate per cent and the original sum of money.

3. A sum of money lent out at C.I. at a certain rate per annum becomes three times of itself in 8 years. Find in how many years will the money becomes twenty-seven times of itself at the same rate of interest p.a.

4. Compound interest on a certain sum of money at 5% per annum for two years is ₹246. Calculate simple interest on the same sum for 3 years at 6% per annum.

5. Mohit borrowed a certain sum at 5% per annum compound interest and cleared this loan by paying Rs. 12,600 at the end of the first year and Rs. 17,640 at the end of the second year. Find the sum borrowed.

6. If the interest is compounded half-yearly, calculate the amount when principal is Rs 7,400 ;the rate of interest is 5% per annum and the duration is one year.

7. Find the difference between the compound interest compounded yearly and half-yearly on Rs 10,000 for 18 months at 10% per annum.

8. What sum of money will amount to Rs. 27,783 in one and a half years at 10% per annum compounded half yearly?

9. Ashok invests a certain sum of money at 20% per annum, compounded yearly. Geeta invests an equal amount of money at the same rate of interest per annum compounded half-yearly. If Geeta gets Rs33 more than Ashok in 18 months, calculate the money invested.

10. In what time will Rs 1,500 yield Rs496. 50 as compound interest at 20% per year compounded half-yearly?

11. The value of an article decreases for two years at the rate of 10% per year and then in the third year it increases by 10%. Find the original value of the article, if its value at the end of 3 years is Rs. 40,095 .

12. According to a census taken towards the end of the year 2009 , the population of a rural town was found to be 64,000 . The census authority also found that the population of this
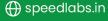
particular town had a growth of 5% per annum. In how many years after 2009 did the population of this town reach 74,088 ?

13. The population of a town decreased by 12% during 1998 and then increased by 8% during 1999 . Find the population of the town, at the beginning of 1998 , if at the end of 1999 its population was 2,85,120.

14. A sum of money, invested at compound interest, amounts to Rs 16,500 in 1 year and to Rs19,965 in 3 years. Find the rate per cent and the original sum of money invested.

15. Mr. Sharma borrowed a certain sum of money at 10% per annum compounded annually. If by paying Rs. 19,360 at the end of the second year and Rs.31,944 at the end of the third year he clears the debt; find the sum borrowed by him.

16. Simple interest on a sum of money for 2 years at 4% is Rs. 450 . Find compound interest on the same sum and at the same rate for 1 year, if the interest is reckoned half yearly.

17. Find the compound interest to the nearest rupee on Rs. 10,800 for $2\frac{1}{2}$ years at 10% per annum.

18. A sum of money is invested at 10% per annum compounded half yearly. If the difference of amounts at the end of 6 months and 12 months is Rs.189, find the sum of money invested.

19. Rohit borrows Rs. 86,000 from Arun for two years at 5% per annum simple interest. He immediately lends out this money to Akshay at 5% compound interest compounded annually for the same period. Calculate Rohit's profit in the transaction at the end of two years.

20. A sum of money was invested for 3 years, interest being compounded annually. The rates for successive years were 10%, 15% and 18% respectively. If the compound interest for the second year amounted to Rs 4,950 , find the sum invested.

21. Calculate the amount of Rs 15,000 is lent at compound interest for 2 years and the rates for the successive years are 8% and 10% respectively.

22. What sum of money will amount to Rs 5,445 in 2 years at 10% per annum compound interest?

23. At what per cent per annum will Rs. 6,000 amount to Rs.6,615 in 2 years when interest is compounded annually?

24. At what rate per cent compound interest, does a sum of money become 1.44 times of itself in 2 years?

25. In how many years will Rs 7,000 amount to Rs 9,317 at 10% per annum compound interest?

Answer

1. ₹8500
2. Rate = 10% , sum = 16000
3. 24 years
4. ₹432
5. ₹28000
6. ₹7,774.63
7. ₹26.25
8. ₹24000
9. ₹3000
10. $1\frac{1}{2}$ years
11. ₹45000
12. 3 years
13. 3,00,000
14. Rate = 10% , sum = 15000
15. ₹40000
16. ₹227.25
17. ₹2921
18. ₹3600
19. ₹215
20. ₹30000
21. ₹17820
22. ₹4500
23. 5%
24. 20%
25. 3 years