MATHS

BOOKS - ICSE

INTEREST (SIMPLE AND COMPOUND)

Example

1. Find the simple interest on Rs. 1,300 from December 23, 2002 to May 18, 2003 at $7\frac{1}{2}\%$ per annum.

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2. Find the rate of interest per year, if the interest charged for 8 months be $0 \cdot 06$ times of the money borrowed.

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3. A sum of money lent out at 9 percent for 5 years produces twice as much interest as Rs. 4,800 in $4\frac{1}{2}$ years at 10 per cent. Find the sum.

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4. A certain sum amounts to Rs. 9,440 in 3 years and to Rs. 10,400 in 5 years. Find the sum and the rate percent.

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5. Calculate the compoud interest on Rs. 6,000 for 2 years at 10% per year.

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6. Calculate the amount and the compound interest on Rs. 8,000 for 3 years at 5% per annum.

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7. Calculate the amount and the compound interest on Rs. 5,000 in 2 years, if the rates of interest for the successive years be 8% and 10% respectively.

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8. Calculate the compound interest for the second year on Rs. 4,000 invested for 3 years at 10% per annum.

9. Calculate the difference between the compound interest and the simple interest on Rs. 10,000 in two years and at 5% per year.

10. Calculate the amount and the compound interest on Rs. 8,000 for 1 year at 10% per annum compounded half-yearly.

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11. Calculate the amount and the compound interest on Rs. 5,000 in $1\frac{1}{2}$ years when interest is compound half-yearly at the rate of 20% per year.

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12. Find the amount and the compound interest on Rs. 16,000 in 3 years at 10% per annum.

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13. Find the amount and the compound interest on Rs. 8,000 in $1\frac{1}{2}$ years at 10% per year compounded half-yearly.

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14. Find the amount and the compound interest on Rs. 12,000 in 3 years, when the rates of interest for successive years are 10%, 12% and 15% respectively.

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Exercise 9 A

1. Find the interest and the amount on :

Rs. 750 in 3 years 4 months at 10% per annum.

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2. Find the interest and the amount on :

Rs. 5,000 at 8% per year from 23rd December 2011 to 29th July 2012.

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3. Find the interest and the amount on :

Rs. 2,600 in 2 years 3 months at 1% per month.

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4. Find the interest and the amount on :

Rs. 4,000 in $1\frac{1}{3}$ years at 2 paise per rupee per month.

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5. Rohit borrowed Rs. 24,000 at $7 \cdot 5$ percent per year. How much money will he pay at the end of 4 years to clear his debt ?

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6. The interest on a certain sum of money is Rs. 1,480 in 2 years and at 10 percent per year. Find the sum of money.

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7. On what principal will the simple interest be Rs. 7,008 in 6 years 3 months at 5% per year ?

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8. Find the principal which will amount to Rs. 4,000 in 4 years at 6.25% per annum.

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9. At what rate per cent per annum will Rs. 630 produce an interest of Rs. 126 in 4 years ?

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10. At what rate percent per year will a sum double itself in $6\frac{1}{4}$ years ?

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11. In how many years will Rs. 950 produce Rs. 399 as simple interest at 7% ?

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12. Find the time in which Rs. 1,200 will amount to Rs. 1,536 at $3 \cdot 5\,\%$ per year.

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13. The simple interest on a certain sum of money is $\frac{3}{8}$ of the sum in $6\frac{1}{4}$ years. Find the rate percent charged.

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14. What sum of money borrowed on 24th May will amount to Rs. $10,210 \cdot 20$ on 17th October of the same year at 5 percent per annum simple interest.

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15. In what time will the interest on a certain sum of money at 6% be $\frac{5}{8}$ of itself ?

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16. Ashok lent out Rs. 7,000 at 6% and Rs. 9,500 at 5%. Find his total income from the interest in 3 years.

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17. Raj borrows Rs. 8,000, out of which Rs. 4,500 at 5% and remaining at 6%. Find the total interest paid by him in 4 years.

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18. Mohan lends Rs. 4,800 to John for $4\frac{1}{2}$ years and Rs. 2,500 to Shyam for 6 years and receives a total sum of Rs. 2,196 as interest. Find the rate per cent per annum, it being the same in both the cases.

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19. John lent Rs. 2,550 to Mohan at $7 \cdot 5$ per cent per annum. If Mohan discharges the debt after 8 months by giving an old black and

white television and Rs. $1,422 \cdot 50$. Find the price of the television.

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Exercise 9 B

1. The interest on a certain sum of money is $0 \cdot 24$ times of itself in 3 years. Find the rate of interest.

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2. If Rs. 3,750 amount to Rs. 4,620 in 3 years at simple interest. Find :

(i) the rate of interest.

the amount of Rs. 7,500 in $5\frac{1}{2}$ years at the same rate of interest.

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3. A sum of money, lent out at simple interest, doubles itself in 8 years. Find :

(i) the rate of interest.

(ii) In how many years will the sum become

triple (three times) of itself at the same rate percent ?

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4. Rupees 4,000 amount to Rs. 5,000 in 8 years, in what time will Rs. 2,100 amount to Rs. 2,800 at the same rate ?

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5. What sum of money lent at $6 \cdot 5\%$ per annum will produce the same interest in 4 years as Rs. 7,500 produce in 6 years at 5% per annum ?

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6. A certain sum amounts to Rs. 3,825 in 4 years and to Rs. 4,050 in 6 years. Find the rate percent and the sum.

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7. At what rate per cent of simple interest will the interest on Rs. 3,750 be one-fifth of itself in 4 years? To what will it amount in 15 years ?

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8. On what date will Rs. 1,950 lent on 5th January, 2011 amount to Rs. $2,125 \cdot 50$ at 5 per cent per annum simple interest ?

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9. If the interest on Rs. 2,400 be more than the interest on Rs. 2,000 by Rs. 60 in 3 years at the same rate per cent, find the rate.

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10. Divide Rs. 15,600 into two parts such that the interest on one at 5 percent for 5 years may be equal to that on the other at $4\frac{1}{2}$ per cent for 6 years.

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Exercise 9 C

1. A sum of Rs. 8,000 is invested for 2 years at 10% per annum compound interest. Calculate : interest for the first year.

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2. A sum of Rs. 8,000 is invested for 2 years at 10% per annum compound interest. Calculate : principal for the second year.

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3. A sum of Rs. 8,000 is invested for 2 years at 10% per annum compound interest. Calculate : interest for the second year.

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4. A sum of Rs. 8,000 is invested for 2 years at 10% per annum compound interest. Calculate : final amount at the end of the second year.

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5. A sum of Rs. 8,000 is invested for 2 years at 10% per annum compound interest. Calculate : compound interest earned in 2 years.

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6. A man borrowed Rs. 20,000 for 2 years at 8% per year compound interest. Calculate : the interest of the first year.

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7. A man borrowed Rs. 20,000 for 2 years at 8% per year compound interest. Calculate :

the interest of the second year.

 Watch Video Solution

8. A man borrowed Rs. 20,000 for 2 years at 8% per year compound interest. Calculate :

the final amount at the end of the second year.

 Watch Video Solution

9. A man borrowed Rs. 20,000 for 2 years at 8% per year compound interest. Calculate :

the compound interest of two years.

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10. Calculate the amount and the compound interest on Rs. 12,000 in 2 years at 10% per year.

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11. Calculate the amount and the compound interest on Rs. 10,000 in 3 years at 8% per annum.

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12. Calcualte the compound interest on Rs. 5,000 in 2 years, if the rates of interest for successive years be 10% and 12% resepectively.

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13. Calculate the compound interest on Rs. 15,000 in 3 years, if the rate of interest for successive years be 6%, 8% and 10% respectively.

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14. Mohan borrowed Rs. 16,000 for 3 years at 5% per annum compound interest. Calculate the amount that Mohan would have to pay at the end of 3 years.

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15. Rekha borrowed Rs. 40,000 for 3 years at 10% per annum compound interest. Calculate the interest paid by her for the second year.


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16. Calculate the compound interest for the second year on Rs. 15,000 invested for 5 years at 6% per annum.


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17. A man invests Rs. 9,600 at 10% per annum compound interest for 3 years. Calculate :

the interest for the first year.

18. A man invests Rs. 9,600 at 10% per annum compound interest for 3 years. Calculate :

the amount at the end of the first year.

19. A man invests Rs. 9,600 at 10% per annum compound interest for 3 years. Calculate :

the interest for the second year.

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20. A man invests Rs. 9,600 at 10% per annum compound interest for 3 years. Calculate :

the interest for the third year.

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21. A person invests Rs. 5,000 for two years at a certain rate of interest compound annually. At the end of one year, this sum amounts to Rs. 5,600. Calculate.

(i) the rate of interest per annum.

(ii) the amount at the end of the second year.

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22. Calculate the difference between the compound interest and the simple interest on

Rs. 7,500 in two years and at 8% per annum.

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23. Calculate the difference between the compound interest and the simple interest on Rs. 8,000 in three years at 10% per annum.

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24. Rohit borrowed Rs. 40,000 for 2 years at 10% per annum C.I. and Manish borrowed the

same sum for the same time at 10.5% per annum simple interest. Which of these two gives less interest and by how much ?

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25. Mr. Sharma lends Rs. 24,000 at 13% p.a. simple interest and an equal sum at 12% p.a. compound interest. Find the total interest earned by Mr. Sharma in 2 years.

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26. Peter borrows Rs. 12,000 for 2 years at 10% p.a. compound interest. He repays Rs. 8,000 at the end of first year. Find :

the amount at the end of first year, after making the repayment.

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27. Peter borrows Rs. 12,000 for 2 years at 10% p.a. compound interest. He repays Rs. 8,000 at the end of first year. Find :

the amount at the end of first year, after making the repayment.

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28. Peter borrows Rs. 12,000 for 2 years at 10% p.a. compound interest. He repays Rs. 8,000 at the end of first year. Find :

the principal for the second year.

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29. Peter borrows Rs. 12,000 for 2 years at 10% p.a. compound interest. He repays Rs. 8,000 at the end of first year. Find :

the amount to be paid at the end of second year, to clear the debt.

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30. Gautam takes a loan of Rs. 16,000 for 2 years at 15% p.a. compound interest. He repays Rs. 9,000 at the end of first year. How much

must he pay at the end of second year to clear the debt ?

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31. A certain sum of money, invested for 5 years at 8% p.a. simple interest, earns an interest of Rs. 12,000. Find :

(i) the sum of money.

(ii) the compound interest earned by this money in two years at 10% p.a. compound interest.

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32. Find the amount and C.I. on Rs. 12,000 in one year at 10% per annum compounded half-yearly.

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33. Find the amount and the C.I. on Rs. 8,000 in $1\frac{1}{2}$ years at 20% per year compounded half-yearly.

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34. Find the amount and the compound interest on Rs. 24,000 for 2 years at 10% per annum compounded yearly.

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35. Find the amount and the compound interest on Rs. 16,000 for 3 years at 5% per annum compounded annually.

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36. Find the amount and the compound interest on Rs. 20,000 for $1\frac{1}{2}$ years at 10% per annum compounded half-yearly.

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37. Find the amount and the compound interest on Rs. 32,000 for 1 year at 20% per annum compounded half-yearly.

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38. Find the amount and the compound interest on Rs. 4,000 in 2 years, if the rate of interest for first year is 10% and for the second year is 15%.

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39. Find the amount and the compound interest on Rs. 10,000 in 3 years, if the rates of interest for the successive years are 10%, 15% and 20% respectively.

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