MATHS

BOOKS - ICSE

COMPOUND INTEREST

Exercise 3 A

1. Find the amount and the compound interest on Rs 12,000 in 3 years at 5%, interest being compounded annually.

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

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3. Calculate the compound interest accrued on Rs 6,000 in 3 years, compounded yearly, if the

rates for the successive years are 5%, 8% and 10% respectively.

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

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5. On what sum of money will the compound interest for 2 years at 5 per cent per annum amount to Rs 768*75 ?

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6. Find the sum on which the compound interest for 3 years at 10% per annum amounts to Rs 1,655

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7. What principal will amount to Rs 9,856 in two years, if the rates of interest for successive years are 10% and 12% respectively ?

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8. On a certain sum, the compound interest in 2 years amounts to Rs 4,240. If the rates of interest for successive years are 10% and 15% respectively, find the sum.

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

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

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11. At what rate per cent will a sum of Rs 4,000 yield 1,324 as compound interest in 3 years?

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12. A person invests Rs 5,000 for three years at a certain rate of interest compounded annually. At the end of two years this sum amounts to Rs 6,272. Calculate the rate of interest per annum.

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13. A person invests 5,000 for three years at a certain rate of interest compounded annually. At the end of two years this sum amounts to Rs 6,272. Calculate :

the amount at the end of the third year.

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14. In how many years will Rs 7,000 amount to Rs 9,317 at 10 per cent per annum compound

interest?

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15. Find the time, in years, in which Rs 4,000 will produce Rs 630.50 as compound interest at 5 percent p.a. interest being compounded annually.

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16. Divide 28,730 between A and B so that when their shares are lent out at 10 per cent compound interest compounded per year, the amount that A receives in 3 years is the same as what B receives in 5 years.

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17. A sum of Rs 44,200 is divided between John and Smith, 12 years and 14 years old respectively, in such a way that if their

portions be invested at 10 percent per annum compound interest, they will receive equal amounts on reaching 16 years of age.

What will each receive, when 16 years old ?

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18. A sum of Rs 44,200 is divided between John and Smith, 12 years and 14 years old respectively, in such a way that if their portions be invested at 10 percent per annum compound interest, they will receive equal

amounts on reaching 16 years of age. What will each receive, when 16 years old ?

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19. The simple interest on a certain sum of money at 10% per annum is 6,000 in 2 years. Find the sum

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20. The simple interest on a certain sum of money at 10% per annum is 6,000 in 2 years. Find the amount due at the end of 3 years and at the same rate of interest compounded annually.

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21. The simple interest on a certain sum of money at 10% per annum is 6,000 in 2 years. Find the compound interest earned in 3 years.

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22. Find the difference between compound interest and simple interest on Rs 8,000 in 2 years and at 5% per annum.


Watch Video Solution

23. Find the amount and the compound interest on Rs 12,000 in 3 years at 5%, interest being compounded annually.


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

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25. Calculate the compound interest accrued on Rs 6,000 in 3 years, compounded yearly, if

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What will each receive, when 16 years old ?

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40. A sum of Rs 44,200 is divided between John and Smith, 12 years and 14 years old respectively, in such a way that if their portions be invested at 10 percent per annum compound interest, they will receive equal

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What will each receive, when 16 years old ?

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41. The simple interest on a certain sum of money at 10% per annum is 6,000 in 2 years. Find :

the compound interest earned in 3 years.

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42. The simple interest on a certain sum of money at 10% per annum is 6,000 in 2 years. Find the amount due at the end of 3 years and at the same rate of interest compounded annually.

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43. The simple interest on a certain sum of money at 10% per annum is 6,000 in 2 years.

Find :

the compound interest earned in 3 years.

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44. Find the difference between compound interest and simple interest on Rs 8,000 in 2 years and at 5% per annum.

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Exercise 3 B

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

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

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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 become twenty-seven times of itself at the same rate of interest p.a.

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4. On what sum of money will compound interest (payable annually) for 2 years be the

same as simple interest on Rs 9,430 for 10 years, both at the rate of 5 percent per annum ?

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5. Kamal and Anand each lent the same sum of money for 2 years at 5% at simple interest and compound interest respectively. Anand received Rs 15 more than Kamal. Find the amount of money lent by each .

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6. 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 2 years.

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7. Simple interest on a certain sum of money for 4 years at 4% per annum exceeds the compound interest on the same sum for 3

years at 5 percent per annum by Rs 228. Find the sum.

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

9. A certain sum of money amounts to Rs 23,400 in 3 years at 10% per annum simple interest. Find the amount of the same sum in 2 years and at 10% p.a. compound interest.

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10. 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.

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11. The difference between simple interest and compound interest on a certain sum is Rs 54.40 for 2 years at 8 percent per annum. Find the sum.

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

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Exercise 3 C

1. 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.

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

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3. A man borrowed 16,000 for 3 years under the following terms:

20% simple interest for the first 2 years.

20% C.I. for the remaining one year on the amount due after 2 years, the interest being compounded half-yearly.

Find the total amount to be paid at the end of three years.

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

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5. 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 Rs 33 more than Ashok in 18 months, calculate the money invested.

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6. At what rate of interrest per annum will a sum of Rs 62,500 earn a compound interest of Rs 5,100 in one year ? The interest is to be compounded half-yearly.

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7. In what time will Rs 1,500 yield Rs 496,50 as compound interest at 20% per year compounded half-yearly ?

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8. Calcualte the C.I. on Rs 3,500 at 6% per annum for 3 years, the interest being compounded half-yearly.

Do not use mathematical tables. Use the necessary information from the following:

$(1 \cdot 06)^3 = 1 \cdot 19106, (1 \cdot 03)^3 = 1 \cdot 092727$

$(1 \cdot 06)^6 = 1 \cdot 418519, (1 \cdot 03)^6 = 1 \cdot 194052$

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9. Find the difference between compound interest and simple interest on Rs 12,000 and in $1\frac{1}{2}$ years at 10% p.a. compounded yearly.

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10. Find the difference between compound interest and simple interest on Rs 12,000 and in $1\frac{1}{2}$ years at 10% compounded half-yealry.

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Exercise 3 D

1. The cost of a machine is supposed to depreciate each year by 12% of its value at the beginning of the year. If the machine is valued at Rs 44,000 at the beginning of 2008, find its value at the end of 2009

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2. The cost of a machine is supposed to depreciate each year by 12% of its value at the

beginning of the year. If the machine is valued at Rs 44,000 at the beginning of 2008, find its value at the beginning of 2007.

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

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4. 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 ?

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5. 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.

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6. A sum of money, invested at compound interest, amounts to Rs 16,500 in 1 year and to

Rs 19,965 in 3 years. Find the rate per cent and the original sum of money invested.

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7. The difference between C.I. and S.I. on Rs 7,500 for two years is Rs 12 at the same rate of interest per annum. Find the rate of interest.

 Watch Video Solution

8. 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 become twenty-seven times of itself at the same rate of interest p.a.

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9. 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.

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10. The difference between compound interest for a year payable half-yearly and simple interest on a certain sum of money lent out at 10% for a year is Rs 15. Find the sum of money lent out.

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11. The ages of Pramod and Rohit are 16 years and 18 years respectively. In what ratio must they invest money at 5% p.a. compounded yearly so that both get the same sum on attaining the age of 25 years ?

Watch Video Solution

12. The cost of a machine is supposed to : depreciate each year by 12% of its value at the beginning of the year. If the machine is valued

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yearly so that both get the same sum on attaining the age of 25 years ?

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Exercise 3 E

1. Simple interest on a sum of money for 2 years at 4% growth rate 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.

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

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3. The value of a machine, purchased two years ago, depreciates at the annual rate of 10%. If its present value is Rs 97,200, find it value after 2 years

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4. The value of a machine, purchased two years ago, depreciates at the annual rate of 10%. If its present value is Rs 97,200, find its value when it was purchased.

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5. Anuj and Rajesh each lent the same sum of money for 2 years at 8% simple interest and

compound interest respectively. Rajesh received Rs 64 more than Anuj. Find the money lent by each and interest received.

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6. Calculate the sum of money on which the compound interest (payable annually) for 2 years be four times the simple interest on Rs 4,715 for 5 years, both at the rate of 5 per cent per annum.

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7. 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 4,950, find the sum invested.

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8. 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,

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9. 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.

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10. The simple interest on a certain sum of money for 3 years at 5% per annum is Rs 1,200. Find the amount due and the compound interest on this sum of money at the same rate and after 2 years, interest is reckoned annually.

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11. Nikita invests Rs 6,000 for two years at a certain rate of interest compounded annually. At the end of first year it amounts to Rs 6,720. Calculate the rate percent (i.e. rate of growth)

Watch Video Solution

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Calculate the amount at the end of the second year.

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Calculate :

the amount at the end of the second year.

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Questions

1. Calculate the amount on Rs 7,500 in 2 years and at 6% compounded annually.

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2. Calculate the compound intersect on Rs 18,000 in 2 years at 15% per annum.

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3. Calcualte the amount and the compound intersect on Rs 12,000 in 3 years when the rates of intersect for successive years are 8%, 10% and 15% respectively.

4. What sum of money will amount to Rs 3,630/- in 2 years at 10% per annum compound intrest

5. On what sum of money will compound intersect for 2 year at 5 percent per year amount to Rs 64 ?

6. At what rate percent per annum C.I will Rs 2,000 amount to Rs 2,315.25 in 3 years ?

7. A person invests Rs 10,000 for two years at a certain rate of interest compounded annually. At the end of one years this sum amounts to Rs 11,200. Calcaulte.

the rate of interest per annum

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8. A person invests Rs 10,000 for two years at a rate of 12% interset compounded annually. At the end of one years this sum amounts to Rs

11,200. Calcaulte the amount at the end of the second year.

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9. In how many years will Rs 2,000 amount to Rs. 2,662 at 10 percent p.a C.I ?

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10. Rs 16,820 is divided between Govind and Geeta, both aged 27 and 25 years respectively.

Their money is invested at 5% per annum compound interst in such a way that both receive equal to money at the age of 40 years. Find the share of each out of Rs 16,820.

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11. On what sum of money will the difference between simple intersect and compound intersect for 2 years at 5% per annum be equal to Rs 25 ?

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12. A certain sum of money at compound interset amounts to Rs 6,600 in 1 year and to Rs 7,986 in 3 years. Find the sum and the rate percent.

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13. The difference between the C.I and the S.I on Rs 8,400 for two years is Rs 21 at the same rate of intersect per year. Find the rate of interset.

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14. Calculate the compound interest on Rs 4,000 in $1\frac{1}{2}$ years at 10 % per annum compounded half-yearly.

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15. Find the amount and the compound interest on $Rs10,000$ for $(1)\frac{1}{2}$ years at $10\,\%$ per annum, compounded half yearly.

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16. John borrowed Rs 20,000 for 4 years under the following conditions :

10% simple interest for the first $2\frac{1}{2}$ years.

10% C.I. for the remaining one and a half years on the amount due after $2\frac{1}{2}$ years, the interest being compounded half-yearly.

Find the total amount to be paid at the end of fourth year.

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17. A sum of money is lent out at compound intersect for two years at 20% per annum. Compound intersect being reckoned yearly. If the same sum of money was lent out at compound interest at the same rate percent per annum, compound intersect being reckoned healf-yealry, it would have fetched Rs 482 more by way of interest in two years. Calcualte the sum of money lent out.

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18. A sum of Rs 6,400 earns a compound interest of Rs 1,008.80 in 18 months when the interest is reckoned half-yearly. Find the rate of interest.

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19. The simple interest on a sum of money for 2 years at 4% per annum is Rs 340. Find :

the sum of money and

Watch Video Solution

20. The simple interest on a sum of money for 2 years at 4% per annum is Rs 340. Find :

the compound intersect on this sum for one year payble half-hearly at the same rate.

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21. The total number of industries in a particular portion of the country is approximately 1,600. if the government has decided to increases the number of industries

in the area by 20% year. Find the approximate number of industries after 2 years.

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22. The value of machine depreciates every year at the rate of 20% of its value of the beginnning of the year (i.e the raete of depreciation is 20%). The machine eas purchased for Rs. 2,50,000 when new, and the srap value realised when sold was Rs 1,28,000.

Find the numer of years that the machine was used.

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23. The population of a town in China increases by 20% every year If its present population is 2,16,000 , find its population after 2 years

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24. The population of a town in China inreases by 20% every year If its present popularion is 2,16,000 , find:

its population 2 years ago.

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25. A sum of money lent out at C.I at a certain r% (rate of growth) doubles itself in 5 years. Find in how many years will the money

become eight times of itself at the same rate of growth.

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26. A man borrowed a sum of money and agrees to pay it off by paying Rs 43,200 at the end of the first year and Rs 34,992 at the end of the second year. If the rate of compound interest is 8% per annum, find the sum borrowed.

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27. रु 8,000 is lent at 5 percent compound interest per year for 2 years. Find the amount and the compound interest.

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28. Find the amount and the compound interest on रु 10,000 at 8 per cent per annum and in 1 year interest being compounded half-yearly.

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29. Calculate the compound interest accrued on ₹ 16,000 in 3 years, when the rates of interest for successive years are 10%, 12% and 15% respectively.

Watch Video Solution

30. Calculate the compound interest due in $2\frac{1}{2}$ years on ₹6,000 at $10\,\%$ compounded annually.

Watch Video Solution

31. Find the value of x if $x^2 + 5x + 6 = 0$

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32. Mrs. Kapoor invested ₹ 6,000 every year at the beginning of the year, at 10% per annum compound interest. Calculate the amount of her total savings : (i) upto the end of the second year. (ii) at the beginning of the third year.

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33. Ranbir borrows रु 20,000 at 12 per cent C.I. If he repays रु 8,400 at the end of first year and रु 9,680 at the end of second year, find the amount of loan outstanding at the beginning of the third year.

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34. A man borrows ₹ 8,000 at 10% compound interest payable every six months. He repays ₹ 2,500 at the end of every six months. Calculate the third payment he has to make at the end of 18 months in order to clear the entire loan.

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35. On a certain sum of money, invested at the rate of 5% per annum compounded annually, the difference between the interest of the first

year and the interest of the third year is ₹ 61.50. Find the sum.

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36. During every financial year, the value of a machine depreciates by 10%. Find the original value (cost) of a machine which depreciates by ₹ 2,250 during the second year.

Watch Video Solution

37. A man invests ₹ 46,875 at 4% per annum compound interest for 3 years. Calculate :

the interest for the 1st year,

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38. Find the sum invested at 10% compounded annually, on which the interest for the first year plus the interest for the third year amount to ₹ 1,768.

Watch Video Solution

39. A sum of money is invested at C.I. payable annually. The amounts of interest in two successive years are ₹ 2,700 and ₹ 2,880. Find the rate of interest.

Watch Video Solution

40. A certain sum of money, placed out at compound interest, amounts to ₹ 6,272 in 2 years and to ₹ 7,024.64 in 3 years. Find the rate of interest and the sum of money.

Watch Video Solution

41. A person invests ₹ 10,000 for three years at a certain rate of interest compounded annually. At the end of one year this sum amounts to ? ₹ 11,200. Calculate :

(i) the rate of interest per annum. (ii) the amount at the end of the second year.

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42. The simple interest on a certain sum computes to ₹ 600 in 3 years and the compound interest on the same sum, at the same rate and for 2 years computes to ₹ 410. Find the rate per cent.

Watch Video Solution

43. The compound interest calculated yearly at 10% on a certain sum of money amounts to ₹ 665.50 in the fifth year. Calculate :

(i) C.I. for the sixth year at the same rate and on the same sum.

(ii) C.I. for the fourth year on the same sum and at the same rate.

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44. A sum of money, at compound interest, amounts to ₹ 8,100 in 5 years and to ₹ 8,748 in 6 years. Find :

(i) the rate per cent (ii) amount in 7 years and (iii) amount in 4 years.

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45. A sum of ₹ 9,600 is invested for 3 years at 10% per annum at compound interest.

(i) What is the sum due at the end of the first year?

(ii) What is the sum due at the end of the second year?

(iii) Hence, write down the compound interest for the third year.

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46. Calculate the amount on Rs 7,500 in 2 years and at 6% compounded annually.

Watch Video Solution

47. Calculate the compound intersect on Rs 18,000 in 2 years at 15% per annum.

Watch Video Solution

48. Calcualte the amount and the compound intersect on Rs 12,000 in 3 years when the rates of intersect for successive years are 8%, 10% and 15% respectively.

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49. What sum of money will amount to Rs 3,630/- in 2 years at 10% per annum compound interest

Watch Video Solution

50. On what sum of money will compound intersect for 2 year at 5 percent per year amount to Rs 64 ?

Watch Video Solution

51. At what rate percent per annum C.I will Rs 2,000 amount to Rs 2,315.25 in 3 years ?

Watch Video Solution

52. A person invests Rs 10,000 for two years at a certain rate of interest compounded annually. At the end of one years this sum amounts to Rs 11,200. Calcaulte.

the rate of interest per annum

 Watch Video Solution

53. A person invests Rs 10,000 for two years at a certain rate of intersect compounded annually. At the end of one years this sum

amounts to Rs 11,200. Calcaulte.

the amount at the end fo the second year.

Watch Video Solution

54. In how many years will Rs 2,000 amount to Rs. 2,662 at 10 percent C.I ?

Watch Video Solution

55. Rs 16,820 is divided between Govind and Geeta, both aged 27 and 25 years respectively.

Their money is invested at 5% per annum compound interst in such a way that both receive equal to money at the age of 40 years. Find the share of each out of Rs 16,820.

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56. On what sum of money will the difference between simple intersect and compound intersect for 2 years at 5% per annum be equal to Rs 25 ?

Watch Video Solution

57. A certain sum of money at compound interset amounts to Rs 6,600 in 1 year and to Rs 7,986 in 3 years. Find the sum and the rate percent.

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58. The difference between the C.I and the S.I on Rs 8,400 for two years is Rs 21 at the same rate of intersect per year. Find the rate of interset.

Watch Video Solution

59. Calculate the compound interest on Rs 4,000 in $1\frac{1}{2}$ years at 10 % per annum compounded half-yearly.

Watch Video Solution

60. Find the amount when Rs 10,000 is invested for $2\frac{1}{2}$ years at 10% intersect compounded yearly.

Watch Video Solution

61. John borrowed Rs 20,000 for 4 years under the following conditions :

10% simple interest for the first $2\frac{1}{2}$ years.

10% C.I. for the remaining one and a half years on the amount due after $2\frac{1}{2}$ years, the interest being compounded half-yearly.

Find the total amount to be paid at the end of fourth year.

Watch Video Solution

62. A sum of money is lent out at compound intersect for two years at 20% per annum. Compound intersect being reckoned yearly. If the same sum of money was lent out at compound interest at the same rate percent per annum, compound intersect being reckoned healf-yealry, it would have fetched Rs 482 more by way of interest in two years. Calcualte the sum of money lent out.

 Watch Video Solution

63. A sum of Rs 6,400 earsn a compound intersec of Rs 1,008.80 in 18 months when the interset is reckoned half-yearly. Find the reate of intersect.

Watch Video Solution

64. The simple interest on a sum of money for 2 years at 4% per annum is Rs 340. Find :

the sum of money and

Watch Video Solution

65. The simple interest on a sum of money for 2 years at 4% per annum is Rs 340. Find :

the compound intersect on this sum for one year payble half-hearly at the same rate.

Watch Video Solution

66. The total number of industries in a particular portion of the country is approximately 1,600. if the government has decided to increases the number of industries

in the area by 20% year. Find the approximate number of industries after 2 years.

Watch Video Solution

67. The value of machine depreciates every year at the rate of 20% of its value of the beginnning of the year (i.e the raete of depreciation is 20%). The machine eas purchased for Rs. 2,50,000 when new, and the srap value realised when sold was Rs 1,28,000.

Find the numer of years that the machine was used.

Watch Video Solution

68. The population of a town in China inreases by 20% every year If its present popularion is 2,16,000 , find:

its population after 2 years,

Watch Video Solution

69. The population of a town in China inreases by 20% every year If its present popularion is 2,16,000 , find:

its population 2 years ago.

Watch Video Solution

70. A sum of money lent out at C.I at a certain r% (rate of growth) doubles itself in 5 years. Find in how many years will the money

become eight times of itself at the same rate of growth.

71. A man borrowed a sum of money and agrees to pay it off by paying Rs 43,200 at the end of the first year and Rs 34,992 at the end of the secon years. If the rae of compound interesct is 8% per annum, find the sum borrowed.

Exercise 2 A

1. 16,000 is invested at 5% compound interest compounded per annum. Use the table, given below, to find the amount in 4 years.

Year↓	Initial amount (₹)	Interest (₹)	Final amount (₹)
1st	...16,000...	.....8,00.....	...16,800...
2nd	.....	.....	.....
3rd	.....	.....	.....
4th	.....	.....	.....
5th	.....	.....	.....

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2. Calculate the amount and the compound interest on:

(i) रु 6,000 in 3 years at 5% per year.

(ii) रु 8,000 in 2 years at 15% per annum.

Watch Video Solution

3. Calculate the amount and the compound interest on:

(i) रु 4,600 in 2 years when the rates of

interest of successive years are 10% and 12% respectively.

(ii) रु 16,000 in 3 years, when the rates of the interest for successive years are 10%, 14% and 15% respectively.

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4. Find the compound interest, correct to the nearest rupee on Rs 2400 for $2\frac{1}{2}$ years at 5 percnet per annum.

Watch Video Solution

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

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6. A borrowed रु 2,500 from B at 12% per annum compound interest. After 2 years, A gave रु 2,936 and a watch to B to clear the account. Find the cost of the watch.

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7. How much will Rs 50,000 amount to in Rs 2 years, compounded yearly, if the rates for the succesive years are $6\%, 8\%$ and 10% respectively.

Watch Video Solution

8. Meenal lends रु 75,000 at C.I. for 3 years. If the rate of interest for the first two years is 15% per year and for the third year it is 16%,

calculate the sum Meenal will get at the end of the third year.

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9. Govind borrows ₹ 18,000 at 10% simple interest. He immediately invests the money borrowed at 10% compound interest compounded half-yearly. How much money does Govind gain in one year?

Watch Video Solution

10. Find the compound interest on ? रु 4,000 accrued in three years, when the rate of interest is 8% for the first year and 10% per year for the second and the third years.

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Exercise 2 B

1. Calculate the difference between the simple interest and the compound interest on रु

4,000 in 2 years at 8% per annum compounded yearly

Watch Video Solution

2. A man lends ₹ 12,500 at 12% for the first year, at 15% for the second year and at 18% for the third year. If the rates of interest are compounded yearly, find the difference between the C.I. of the first year and the compound interest for the third year

Watch Video Solution

3. A sum of money is lent at 8% per annum compound interest. If the interest for the second year exceeds that for the first year by 96, find the sum of money.

 Watch Video Solution

4. A man borrows ₹ 6,000 at 5 percent C.I. per annum. If he repays ₹ 1,200 at the end of each year, find the amount of the loan outstanding at the beginning of the third year.

Watch Video Solution

5. A man borrows ₹ 5,000 at 12 percent compound interest payable every six months. He repays ₹ 1,800 at the end of every six months. Calculate the third payment he has to make at the end of 18 months in order to clear the entire loan.

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6. On a certain sum of money, the difference between the compound interest for a year,payable half-yearly, and the simple interest for a year is रु 180/-. Find the sum lent out, if the rate of interest in both the cases is 10% per annum.

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7. A manufacturer estimates that his machine depreciates by 15% of its value at the

beginning of the year. Find the orginal value (cost of the machine, if it depreciates by ₹ 5,355 during the second year.

Watch Video Solution

8. A man invests ₹ 5,600 at 14% per annum compound interest for 2 years. Calculate :

(i) the interest for the first year.

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

(iii) the interest for the second year, correct to the nearest rupee.

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9. A man saves ₹ 3,000 every year and invests it at the end of the year at 10% compound interest. Calculate the total amount of his savings at the end of the third year.

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10. A man borrows ₹ 10,000 at 5% per annum compound interest. He repays 35% of the sum borrowed at the end of the first year and 42%

of the sum borrowed at the end of the second year. How much must he pay at the end of the third year in order to clear the debt?

Watch Video Solution

Exercise 2 C

1. A sum is invested at compound interest compounded yearly. If the interest for two successive years be रु 5,700 and रु 7,410, calculate the rate of interest .

Watch Video Solution

2. A certain sum of money is put at compound interest, compounded half-yearly. If the interest for two successive half-years are ₹ 650 and ₹ 760.50, find the rate of interest.

Watch Video Solution

3. A certain sum amounts to ₹ 5,292 in two years and ₹ 5,556.60 in three years, interest being compounded annually. Find:

(i) the rate of interest

(ii) the original sum.

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4. The compound interest, calculated yearly, on a certain sum of money for the second year is ₹ 1,089 and for the third year it is? ₹ 1,197.90. Calculate the rate of interest and the sum of money.

Watch Video Solution

5. Mohit invests ₹ 8,000 for 3 years at a certain rate of interest, compounded annually. At the end of one year it amounts to ₹ 9,440. Calculate

(i) the rate of interest per annum.

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

(iii) the interest accrued in the third year.

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6. Geeta borrowed ₹ 15,000 for 18 months at a certain rate of interest compounded semi

annually. If at the end of six months it amounted to 15,600, calculate :

(i) the rate of interest per annum.

(ii) the total amount of money that Geeta must pay at the end of 18 months inm order to clear the account.

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7. Ramesh invests ₹ 12,800 for three years at the rate of 10% per annum compound interest. Find:

(i) the sum due to Ramesh at the end of the first year.

(ii) the interest he earns for the second year.

(iii) the total amount due to him at the end of the third year.

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8. रु 8,000 is lent out at 7% compound interest for 2 years. At the end of the first year रु 3,560 are returned. Calculate :

(i) the interest paid for the second year.

(ii) the total interest paid in two years

(iii) the total amount of money paid in two years to clear the debt.

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9. The cost of a machine depreciated by ₹ 4,000 during the first year and by ₹ 3,600 during the second year. Calculate :

(i) the rate of depreciation.

(ii) the orginal cost of the machine.

(iii) its cost at the end of the third year.

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10. Find the sum, invested at 10% compounded annually, on which the interest for the third year exceeds the interest of the first year by ₹ 252.

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11. A man borrows ₹ 10,000 at 10% compound interest compounded yearly. At the end of each year, he pays back 30% of the sum

borrowed. How much money is left unpaid just after the second year?

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12. A man borrows ₹ 10,000 at 10% compound interest compounded yearly. At the end of each year, he pays back 20% of the amount for that year. How much money is left unpaid just after the second year?

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Exercise 2 D

1. What sum will amount to ₹ 6,593.40 in 2 years at C.I., if the rates are 10 percent and 11 percent for the two successive years ?

Watch Video Solution

2. The value of a machine depreciated by 10% per year during the first two years and 15% per year during the third year. Express the total

depreciation of the machine, as percent, during the three years

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3. Rachna borrows ₹ 12,000 at 10 per cent per annum interest compounded half-yearly. She repays ₹ 4,000 at the end of every six months. Calculate the third payment she has to make at the end of 18 months in order to clear the entire loan.

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4. On a certain sum of money, invested at the rate of 10 percent per annum compounded annually, the interest for the first year plus the interest for the third year is ₹ 2,652. Find the sum.

 Watch Video Solution

5. During every financial year, the value of a machine depreciates by 12%. Find the original cost of a machine which depreciates by ₹

2,640 during the second financial year of its purchase.

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6. Find the sum on which the difference between the simple interest and the compound interest at the rate of 8% per annum compounded annually be ₹ 64 in 2 years .

Watch Video Solution

7. A sum of ₹ 13,500 is invested at 16% per annum compound interest for 5 years. Calculate :

(i) the interest for the first year.

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

(iii) the interest for the second year, correct to the nearest rupee.

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8. Saurabh invests ₹ 48,000 for 7 years at 10% per annum compound interest. Calculate :

(i) the interest for the first year.

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

(iii) the interest for the third year.

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9. Ashok borrowed 12,000 at some rate per cent compound interest. After a year, he paid back ₹ 4,000. If compound interest for the second year be ₹ 920, find :

(i) the rate of interest charged

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

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10. On a certain sum of money, lent out at C.I., interests for first second and third years are रु 1,500, रु 1.725 and रु 2,070 respectively. Find the rate of interest for the

(i) second year

(ii) third year.

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Topic 1 3 Marks Questions

1. Calculate the amount and the compound interest on:

(i) रु 6,000 in 3 years at 5% per year.

(ii) रु 8,000 in 2 years at 15% per annum.

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2. Find the compound interest, correct to the nearest rupee on Rs 2400 for $2\frac{1}{2}$ years at 5

percnet per annum.

Watch Video Solution

3. A borrowed ₹ 2,500 from B at 12% per annum compound interest. After 2 years, A gave ₹ 2,936 and a watch to B to clear the account. Find the cost of the watch.

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4. How much will Rs 50,000 amount to in Rs 2 years, compounded yearly, if the rates for the succesive years are $6\%, 8\%$ and 10% respectively.

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5. Govind borrows रु 18,000 at 10% simple interest. He immediately invests the money borrowed at 10% compound interest

compounded half-yearly. How much money does Govind gain in one year?

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6. Find the compound interest on ? रु 4,000 accrued in three years, when the rate of interest is 8% for the first year and 10% per year for the second and the third years.

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7. A sum of money is lent at 8% per annum compound interest. If the interest for the second year exceeds that for the first year by 96, find the sum of money.

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8. A sum is invested at compound interest compounded yearly. If the interest for two successive years be ₹ 5,700 and ₹ 7,410, calculate the rate of interest .

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9. A certain sum amounts to ₹ 5,292 in two years and ₹ 5,556.60 in three years, interest being compounded annually. Find:

(i) the rate of interest

(ii) the original sum.

Watch Video Solution

10. A certain sum amounts to Rs 5292 in two years and Rs 5556.60 in three years, interest

being compounded annually. Find:

the original sum.

11. On a certain sum of money, lent out at C.I., interests for first second and third years are ₹ 1,500, ₹ 1.725 and ₹ 2,070 respectively. Find the rate of interest for the

(i) second year

(ii) third year.

12. On a certain sum of money, lent out at C.I., interests for first second and third years are रु 1,500, रु 1.725 and रु 2,070 respectively. Find the rate of interest for the

(i) second year

(ii) third year.

Watch Video Solution

13. Mr. Ravi borrows Rs 16000 for 2 years. The rate of interest for the two successive years

are 10% and 12% respectively. If be pays Rs 5600 at the end of first year, find the amount outstanding at the end of the second year.

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14. What sum will amount to ₹ 6,593.40 in 2 years at C.I., if the rates are 10 percent and 11 percent for the two successive years ?

Watch Video Solution

Topic 1 4 Marks Questions

1. A man lends ₹ 12,500 at 12% for the first year, at 15% for the second year and at 18% for the third year. If the rates of interest are compounded yearly, find the difference between the C.I. of the first year and the compound interest for the third year

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2. A manufacturer estimates that his machine depreciates by 15% of its value at the beginning of the year. Find the orginal value (cost of the machine, if it depreciates by ₹ 5,355 during the second year.

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3. A man saves ₹ 3,000 every year and invests it at the end of the year at 10% compound

interest. Calculate the total amount of his savings at the end of the third year.

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4. A man borrows ₹ 10,000 at 5% per annum compound interest. He repays 35% of the sum borrowed at the end of the first year and 42% of the sum borrowed at the end of the second year. How much must he pay at the end of the third year in order to clear the debt?

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5. A certain sum of money is put at compound interest, compounded half-yearly. If the interest for two successive half-years are ₹ 650 and ₹ 760.50, find the rate of interest.

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6. Geeta borrowed ₹ 15,000 for 18 months at a certain rate of interest compounded semi annually. If at the end of six months it amounted to 15,600, calculate :

(i) the rate of interest per annum.

(ii) the total amount of money that Geeta must pay at the end of 18 months inm order to clear the account.

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7. Geeta borrowed ₹ 15,000 for 18 months at a certain rate of interest compounded semi annually. If at the end of six months it amounted to 15,600, calculate :

(i) the rate of interest per annum.

(ii) the total amount of money that Geeta must pay at the end of 18 months inm order to clear the account.

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8. The cost of a machine depreciated by ₹ 4,000 during the first year and by ₹ 3,600 during the second year. Calculate :

(i) the rate of depreciation.

(ii) the orginal cost of the machine.

(iii) its cost at the end of the third year.

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9. The cost of a machine depreciated by ₹ 4,000 during the first year and by ₹ 3,600 during the second year. Calculate :

(i) the rate of depreciation.

(ii) the orginal cost of the machine.

(iii) its cost at the end of the third year.

Watch Video Solution

10. The cost of a madiane depreciated by Rs 4000 during the first year and by Rs 3600 during the second year calculate:

Difference the depreciation value of between the first

 Watch Video Solution

11. A man borrows रु 10,000 at 10% compound interest compounded yearly. At the end of each year, he pays back 20% of the amount for

that year. How much money is left unpaid just after the second year?

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12. Ashok borrowed 12,000 at some rate per cent compound interest. After a year, he paid back ₹ 4,000. If compound interest for the second year be ₹ 920, find :

(i) the rate of interest charged

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

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13. Ashok borrowed 12,000 at some rate per cent compound interest. After a year, he paid back ₹ 4,000. If compound interest for the second year be ₹ 920, find :

(i) the rate of interest charged

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

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14. Mr. Ram borrows Rs. 20,000 for 2 years compounded annually. The rate of interest for the two successive years are 9% and 10% respectively. If he repays Rs. 1,200 at the end of the first year, Rs. 1,660 at the end of second year, find the amount outstanding at the beginning of the third year.

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Topic 2 3 Marks Questions

1. Find the amount and the compound interest on Rs 12,000 in 3 years at 5%, interest being compounded annually.

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2. Calculate the compound interest accrued on Rs 6,000 in 3 years, compounded yearly, if the rates for the successive years are 5%, 8% and 10% respectively.

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3. On a certain sum, the compound interest in 2 years amounts to Rs 4,240. If the rates of interest for successive years are 10% and 15% respectively, find the sum.

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

5. In how many years will Rs 7,000 amount to Rs 9.317 at 10 per cent per annum compound interest?

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6. The difference between simple interest and compound interest on a certain sum is Rs 54.40 for 2 years at 8 percent per annum. Find the sum.

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7. On what sum of money will compound interest (payable annually) for 2 years be the same as simple interest on Rs 9,430 for 10 years, both at the rate of 5 percent per annum ?

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8. A man borrowed 16,000 for 3 years under the following terms:

20% simple interest for the first 2 years.

20% C.I. for the remaining one year on the amount due after 2 years, the interest being compounded half-yearly.

Find the total amount to be paid at the end of three years.

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9. Find the difference between compound interest and simple interest on Rs 12,000 and in $1\frac{1}{2}$ years at 10% compounded half-yealry.

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10. The ages of Pramod and Rohit are 16 years and 18 years respectively. In what ratio must they invest money at 5% p.a. compounded yearly so that both get the same sum on attaining the age of 25 years ?

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11. Calculate the sum of money on which the compound interest (payable annually) for 2

years be four times the simple interest on Rs 4,715 for 5 years, both at the rate of 5 per cent per annum.

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12. A sum of Rs. 10,000 yields Rs. 3310 as compound interest in 3 years. If interest is compounded yearly, find the :

(i) amount

(ii) rate of interest

Watch Video Solution

13. A sum of Rs. 10,000 yields Rs. 3310 as compound interest in 3 years. If interest is compounded yearly, find the :

(i) amount

(ii) rate of interest

Watch Video Solution

Topic 2 4 Marks Questions

1. A sum of Rs 44,200 is divided between John and Smith, 12 years and 14 years old respectively, in such a way that if their portions be invested at 10 percent per annum compound interest, they will receive equal amount to reaching 16 years of age.

What is the share of each out of Rs 44,2007

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2. A sum of Rs 44,200 is divided between John and Smith, 12 years and 14 years old respectively, in such a way that if their portions be invested at 10 percent per annum compound interest, they will receive equal amounts on reaching 16 years of age.

What will each receive, when 16 years old ?

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3. The simple interest on a certain sum of money at 10% per annum is 6,000 in 2 years. Find :

the sum

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4. The simple interest on a certain sum of money at 10% per annum is 6,000 in 2 years. Find :

the amount due at the end of 3 years and at

the same rate of interest compounded annually.

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5. The simple interest on a certain sum of money at 10% per annum is 6,000 in 2 years. Find :

the compound interest earned in 3 years.

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

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7. 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 become twenty-seven times of itself at the same rate of interest p.a.

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8. 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 Rs 33 more than Ashok in 18 months, calculate the money invested.

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9. The difference between C.I. and S.I. on Rs 7,500 for two years is Rs 12 at the same rate of interest per annum. Find the rate of interest.

10. 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.

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11. A sum of Rs 12500 is deposited for $1\frac{1}{2}$ years, compounded half-yearly. It amounts to 13000 at the end of first half-year. Find :

rate of interest

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12. A sum of Rs 12500 is deposited for $1\frac{1}{2}$ years, compounded half-yearly. It amounts to 13000 at the end of first half-year. Find :

the final amount. Give your answer correct to the nearest rupee.

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