SIMPLE & COMPOUND INTEREST

(Ref: FM-QAH2022002)

Finding Simple Interest

1. Rs. 50,000 is invested for two years under simple interest at 10% p.a. Find the interest earned (in Rs.)
   a) 1000 b) 2000
   c) 500 d) 1050

2. What sum will yield an interest of Rs. 3060 in six years at 5% p.a. simple interest?
   a) Rs. 8400 b) Rs. 7650
   c) Rs. 12100 d) Rs. 10200

3. A man invested certain sum at simple interest. The interest occurred is Rs. 4000. Find the interest if rate is increased by 40% & time is decreased by 20%?

Finding Rate

4. At what rate of simple interest, will a sum of Rs. 64,000 yield an interest of Rs. 15,360 in six years?

5. A certain sum lent at simple interest amounts to Rs. 34,800 in five years and to Rs. 41,280 in eight years. Find the rate of interest.

6. A sum of money becomes five times itself at simple interest. If the time period (in years) is numerically equal to the rate of interest, find the annual rate of interest.
   a) 25% b) 20% c) 30% d) 15%

7. A sum of money at simple interest amounts to Rs. 14160 in 3 year. If the rate of interest is increased by 25%, the same sum amount to Rs. 14700 in the same time. The rate of interest is
   a) 7% b) 6%
   c) 12% d) 5% e) None

8. A sum of Rs. 11000 is equally divided and invested at two different rates of interest. The difference between the interests got after 3 year is Rs. 300. What is the difference between the rates of interest?
   a) 1. 81% b) 1. 75%
   c) 1. 69% d) 1. 32%
   e) None of these

9. Aman lends 30% of sum at 30% p.a. 50% of sum at 14% p.a. and the remaining sum at 12% p.a. rate of interest. What would be the rate of interest, if the interest is calculated on the whole sum?
   a) 18. 1% p.a. b) 17. 6% p.a.
   c) 19. 3% p.a. d) 12. 4% p.a.
   e) None of these

10. The difference between the simple interest received from two different sources on Rs1500 for 3 years is Rs13. 50. The difference between their rates of interest is:
    a) 0.4% b) 0.3% c) 0.2% d) 0.1%

11. Arun lent Rs. 7000 to Barun for 3 years and Rs. 4000 to Varun for 2 years on simple interest and at same rate of interest. If Arun received Rs. 3000 as total interest from both, what is the rate of interest?
    a) 10. 37% p.a. b) 17. 6% p.a.
    c) 19. 3% p.a. d) 12. 4% p.a.
    e) 10. 81% p.a.

12. Ganesh lent sum of Rs. 840 to Mayur in the beginning of the year at a certain rate of interest. After 6 months Rs. 420 is lent to the same person but the rate of interest is twice the former. At the end of the year Rs. 80 is earned as total interest by graham then what is the original rate of interest.
    a) 5. 64% b) 7. 46%
    c) 6. 34% d) 5. 45% e) 7. 85%

Finding Principal

13. What sum will yield an interest of Rs. 153 in six years at 5% p.a. simple interest?
    a) Rs. 480 b) Rs. 650
    c) Rs. 605 d) Rs. 510

14. A sum was put a simple interest at a certain rate for 2 years. Had it been put at 4% higher rate, it would have fetched Rs. 80 more. The sum is:

15. An amount of Rs. 400 becomes Rs. 424 in 3 years at a certain rate of simple interest, If the rate of interest was 6% higher, what amount will Rs. 400 becomes in 2 years?
    a) Rs. 450 b) Rs. 425
    c) Rs. 480 d) Data in adequate
    e) None of these

16. Harshan took a loan at a rate of simple interest 7% in the year with an increase of 0. 25% in each subsequent year. He paid an interest of Rs. 8850 after 4 years. How much loan did he take?
    a) Rs. 31000 b) Rs. 30500
    c) Rs. 30400 d) Rs. 30000
    e) None of these

Finding Time

17. In how many years will a sum of money become sixteen times itself at 50% p.a. simple interest?
    a) 25 b) 40 c) 30 d) 50

18. An amount becomes 4 times in 9 years when invested under SI at a certain rate. In how many years will the amount become 8 times of the original amount at the same rate?

19. A person wanted to invest Rs. 12000 at the rate of 12% p.a. for 10 years at Simple interest. Rate of interest changed to 13% p.a. in between and the total interest the person received is 1548. After how much time the rate changed?

Finding Rate & Sum

20. Raman invested some amount at the rate of 15% simple interest and a certain amount at the rate of 20% simple interest. He received a yearly interest of Rs. 1900. But if he had interchanged the amounts invested, he would have received Rs. 550 more as interest. How much did he invest at 20% simple interest?
a) Rs. 7654. 5 b) Rs. 7116. 5
c) Rs. 7142. 8 d) Rs. 7654. 5
e) None of these

21. An equal amount of sum is invested in two schemes for 5 years each, both offering simple interest. The interest amount obtained at 16% is Rs. 1000 more than that obtained at 12%. What is the total sum invested?
a) Rs. 4500 b) Rs. 6000
c) Rs. 9000 d) Rs. 5000 e) None

22. Baba borrowed some money at the rate of 6% p.a. for the first two years, at the rate of 9% p.a. for the next three years, and at the rate of 14% p.a. for the period beyond five years. If he pays a total interest of Rs. 11,400 at the end of nine years, how much money did he borrow?

23. An amount of Rs. 8000 is lent out in two parts such that the interest on first part at 15 % for 4 years is equal to interest on second part at 4 % for 10 years. Find the sum lent out at 15%.

24. A person invested in all 5200 into three parts at 4%, 6% and 8% per annum simple interest. At the end of the year, he got the same interest in all the three cases. The money invested at 4% is:
a) 600 b) 2400 c) 1200 d) 800

Installment

25. What annual installments will discharge a debt of Rs. 1053 due in 3 years at 8% simple interest?
a) 328 b) 330 c) 320
d) 325 e) 324

26. Find the amount of equal installment, annual payment of which will discharge a debt of Rs. 406 due in 2 years at 3% p.a. of Simple interest.
a) 234 b) 240
c) 200 d) 340 e) 334

27. Find the amount of debt that will be discharged by equal installments of Rs. 150 each, if the debt is due in 4 year at 2% p.a.
a) 674 b) 634
c) 618 d) 640 e) 650

COMPOUND INTEREST

Finding CI

28. Rs. 15000 is invested for two years under compound interest at 10% p.a., interest being compounded annually. Find the interest earned (in Rs.).

29. Find the compound interest obtained on a sum of Rs. 40,000 at 25% p.a. for 4 years (in Rs.).

30. If compound interest for the forth year is Rs. 1000 on a certain sum at the rate of 10% p.a., what is the compound interest for the 8th year?

31. Suman invested Rs. 1,00,000 for 3 years, interest being compounded annually. If the rate of interest is 8%, 10% and 12% for the 1' year, 2nd year, and 3rd year respectively, find the interest earned by Suman.

32. I keep Rs. 10,000 at compound interest rate of 10% p.a. What would have been the difference in the amounts due at end of two years is interest is compounded annually and if compounded semi-annually?

33. I keep Rs. 6 lacs at a compound interest rate of 9% p.a. if interest is compounded every 4 months find the amount due at end of 1 year.

Finding Rate

34. A sum under compound interest, interest being compounded annually amounts to Rs. 8000 in two years and Rs. 9600 in three years. Find the rate of interest.
a) 15% p.a. b) 18% p.a.
c) 20% p.a. d) 10% p.a.

35. At what rate per annum will Rs. 64000 yield a compound interest of Rs. 10088 in 9 months interest being compounded quarterly?
a) 32% b) 20% c) 80% d) 50%

36. If Rs. 6000 amounts to Rs. 7260 in two years under compound interest, interest being compounded annually, what is the annual rate of interest?
a) 10. 5% b) 11%
c) 21% d) 10%

37. The compound interest on a certain sum for the third year and the fourth year is Rs. 36300 and Rs. 39930 respectively. What is the rate of interest per annum?

38. On a certain sum of money the compound interest for 2 years is Rs. 282. 15 and the simple interest for the same period of time is Rs. 270. The rate of interest per annum is :
a) 12.15% b) 9% c) 10% d) 6. 07%

39. At what rate percent per annum of compound interest, will a sum of money become four times of itself in two years?
a) 20% b) 50% c) 75% d) 100%

40. The CI on a certain sum for 2 year and 3 year is Rs. 600 and Rs. 938 respectively. Find the rate of interest?
a) 10% b) 9% c) 8.33% d) 20%

41. The CI on a certain sum for 2 year and 3 year is Rs. 1320 and Rs. 2184 respectively. Find the sum?
a) 2400 b) 1500 c) 2000 d) 3000

Finding Principal

42. A certain sum of money yields Rs. 2522 as compound interest for 3 years at 5% per annum. The sum is:
a) Rs. 18000 b) Rs. 16800
c) Rs. 15000 d) Rs. 16000

43. A certain sum invested at 4% per annum compound interest, compounded half-yearly, amounts to Rs. 7803 at the end of the one year. The sum is :
a) Rs. 7700 b) Rs. 7500
c) Rs. 7200 d) Rs. 7000

44. A sum becomes Rs. 13500 after two years and Rs. 20250 after 4 years at the same compound interest. The sum is:
a) Rs. 12000 b) Rs. 7500
b) Rs. 9000 d) Rs. 6000

Finding Time

45. The compound interest on Rs. 24,000 at 4% p.a. for a certain period is Rs. 1958. 4. Find the time period.

46. In what time will Rs. 1000 amounts Rs. 1331 at 20% per annum, compounded half-yearly?
a) 2. 5 years b) 1 years
c) 2 year d) 1. 5 years

47. A sum of money placed at compound interest doubles itself in 15 years. In how many years, it would amount to sixteen times of itself at the same rate of interest?
a) 30 years b) 40 years
c) 45 years d) 60 years

Based on a difference between CI & SI

48. The difference between compound interest and simple interest on Rs. 5000 for 2 years at 4% per annum is:
a) Rs. 80 b) Rs. 90
c) Rs. 100 d) Not

49. The difference between compound interest and simple interest of a certain sum of money at 20% per annum for 2 years is Rs. 132. Then the sum is:
a) Rs. 2200 b) Rs. 4400s
c) Rs. 1100 d) Rs. 3300

50. On what sum does the difference between the compound interest and the simple interest for 3 years at 10% is Rs. 93?
a) Rs. 4500 b) Rs. 3600
c) Rs. 3300 d) Rs. 3000

51. The compound interest on a certain sum of money invested for 2 years at 5% per annum is Rs. 328. The simple interest on the sum, at the same rate and for the same period will be:
a) Rs. 287 b) Rs. 300
c) Rs. 308 d) Rs. 320

52. A person deposited a sum of Rs. 6000 in a bank at 5% per annum simple interest. Another person deposited Rs. 5000 at 8% per annum compound interest. After two years, the difference of their interest will be:
a) Rs. 234 b) Rs. 432
c) Rs. 232 d) Rs. 434

53. The difference between SI for 2 years at 5% p.a. on a certain sum and CI for 2 years on the same sum at 6.25% p.a. is Rs. 37. Find the sum?

54. At what rate of interest the ratio of 1 year SI and 3 years CI is 1:3.64?

Installments

55. Ranju took Rs. 6800 as a loan which along with interest is to be repaid in two equal installments. If the rate of interest is $12\frac{1}{2}\%$, compounded annually, then the value of each installment is:
a) Rs. 4250 b) Rs. 4150
c) Rs. 4050 d) None

56. A sum of money is paid back in two annual installments of Rs. 17640 each, allowing 5% compound interest compounded annually. The sum borrowed was:
a) Rs. 32200 b) Rs. 32000
c) Rs. 32400 d) Rs. 32800

57. A sum of 8000 is borrowed at 5% p.a. compound interest and paid back in 3 equal annual installments. What is the amount of each installment?
a) 2739.76 b) 3000
c) 2937.67 d) 2037.67

58. Shrinath buys a plot worth Rs. 525000. He pays Rs. 125000 as down payment and agrees to pay the remaining amount in instalments. What is the approximate yearly instalment amount to be paid by him, if at 12% p.a. compounded annually, he repays the remaining amount in three more years? Given that $(1/1.12)^3 = 0.71$
a) Rs. 165000 b) Rs. 167000
c) Rs. 183000 d) Rs. 180000

59. A sum was borrowed at 20% p.a. compound interest. It was repaid in three annual installments with each installment being paid at the end of a year. The first, second, and third installments were Rs. 1200, Rs. 1152 and Rs. 2592 respectively. Find the sum borrowed. (in Rs.)

60. Asifss borrowed Rs. 72000 at 20% p.a. compound interest, interest being compounded annually. He repaid Rs. X at the end of the first year. He repaid Rs. 57600 at the end of the second year and thereby cleared the loan. Find x.

Mixed

61. Nikhilesh invested certain amount in three different schemes *A, B* and *C* with the rate of interest 10 percent per annum 12 percent per annum and 15 percent per annum respectively. If the total interest accrued in one year was 3200 and the amount

invested in scheme *C* was 150% of the amount invested in scheme *A* and 240% of the amount invested in scheme *B,* what was the amount invested in scheme *B*?
a) 8000 b) 5000
c) 6500 d) Can't be determined

62. If there are three sum of money *P*,*Q* and *R* so that *P* is the simple interest of *Q* and *Q* is the simple interest of *R*, rate % and time are same in each case, then the relation of *P*, *Q* and *R* is given by
a) $P^2 = QR$ b) $Q^2 = PR$
c) $R^2 = PQ$ d) $PQR = 100$

63. Mr. Duggal invested 20000 with rate of interest at the rate of 20% per annum. The interest was compounded half-yearly for the first 1year and in the next year it was compounded yearly. What will be the total interest earned at the end of 2 years?
a) 8800 b) 9040
c) 8040 d) 9800

64. A certain sum of money amounts to 756 in 2 years and to 873 in 3. 5 years. Find the sum and the rate of interest.
a) 11% b) 13%
c) 15% d) 19%

65. A sum of 1000 after 3 years at compound interest becomes a certain amount that is equal to the amount that is the result of a 3 year depreciation from 1728. Find the difference between the rates of C.I. and depreciation. (Given C. I. is 10% p.a.) (Approximately)
a) 3.33% b) 1.66%
c) 3% d) 2%

66. Hari Lal and Hari Prasad have equal amounts. Hari Lal invested all his amount at 10% compounded annually for 2 years and Hari Prasad invested 1/4 at 10% compound interest (annually) and rest at *r*% per annum at simple interest for the same 2 years period. The amount received by both at the end of 2 years is same. What is the value of *r*?
a) 14% b) 12. 5%
c) 10. 5% d) 11%

67. If the simple interest is 10. 5% annual and compound interest is 10% annual, find the difference between the interests after 3 years on a sum of Rs. 1000.
a) 15 b) 12
c) 16 d) 11

68. The RBI lends a certain amount to the SBI on simple interest for two years at 20%. The SBI gives this entire amount to Bharti Telecom on compound interest for two years at the same rate annually. Find the percentage earning of the SBI at the end of two years on the entire amount.
a) 4% b) $3\frac{1}{7}\%$
c) $3\frac{2}{7}\%$ d) $3\frac{6}{7}\%$

69. A sum is divided between *A* and *B* in the ratio of 1:2. *A* purchased a car from his part, which depreciates 14 % per annum and *B* deposited his amount in a bank, which pays him 20% interest per annum compounded annually. By what percentage will the total sum of money increase after two years due to this investment pattern (approximately)?
a) 20% b) 26. 66%
c) 30% d) 25%

70. Michael Bolton has $90,000 with him. He purchases a car, a laptop and a flat for $15,000, $13,000 and $35,000 respectively and puts the remaining money in a bank deposit that pays compound interest @15% per annum. After 2 years, he sells off the three items at 80% of their original price and also withdraws his entire money from the bank by closing the account. What is the total change in his asset?
a) –4. 5% b) +3. 5%
c) –4. 32% d) +5. 5%

71. Mr. Mehra is planning for higher education expenses of his two sons aged 15 and 12. He plans to divide ` 15 lakhs in two equal parts and invest in two different plans such that his sons may have access to ` 21 lakhs each when they reach the age of 21. He is looking for plan that will give him a simple interest per annum. The rates of interest of the plans for his younger son and elder son should be
(a) 5% and 7.5% respectively
(b) 8% and 12% respectively
(c) 10% and 15% respectively
(d) 20% and 30% respectively

72. A person closes his account in an investment scheme by withdrawing Rs. 10,000. One year ago he had withdrawn Rs. 6000. Two years ago he had withdrawn Rs. 5000. Three years ago he had not withdrawn any money. How much money had he deposited approximately at the time of opening the account 4 years ago, if the annual simple interest is 10%?
(a) 15600 (b) 16400
(c) 14600 (d) none of the above

73. A man invests Rs 3000 at a rate of 5% per annum. How much more should he invest at a rate of 8%, so that he can earn a total of 6% per annum?
(a) Rs 1200 (b) Rs 1300
(c) Rs 1500 (d) Rs 2000

74. Ram purchased a flat at Rs 1 lakh and Prem purchase a plot of land worth Rs 1.1 lakh. The respective annual rates at which the prices of the falt and the plot increased were 10 % and 5%. After two years they exchanged their belongings and one paid the other the difference. Then...
(a) Ram paid Rs 275 to Prem
(b) Ram paid Rs 475 to Prem
(c) Ram paid Rs 2750 to Prem
(d) Prem paid Rs Rs 475 to Ram

CAT PAST YEAR QUESTIONS

75. Anil invests some money at a fixed rate of interest, compounded annually. If the interests accrued during the second and third year are ₹ 806.25 and ₹ 866.72, respectively, the interest accrued, in INR, during the fourth year is nearest to **CAT 2021**
a) 934.65 b) 931.72
c) 926.84 d) 929.48

76. Bank A offers 6% interest rate per annum compounded half yearly. Bank B and Bank C offer simple interest but the annual interest rate offered by Bank C is twice that of Bank B. Raju invests a certain amount in Bank B for a certain period and Rupa invests ₹ 10,000 in Bank C for twice that period. The interest that would accrue to Raju during that period is equal to the interest that would have accrued had he invested the same amount in Bank A for one year. The interest accrued, in INR, to Rupa is **CAT 2021**
a) 3436 b) 2346
c) 2436 d) 1436

77. A person invested a certain amount of money at 10% annual interest, compounded half-yearly. After one and a half years, the interest and principal together became Rs 18522. The amount, in rupees, that the person had invested is **CAT 2020**

78. For the same principal amount, the compound interest for two years at 5% per annum exceeds the simple interest for three years at 3% per annum by Rs 1125. Then the principal amount in rupees is **CAT 2020**

79. Veeru invested Rs 10000 at 5% simple annual interest, and exactly after two years, Joy invested Rs 8000 at 10% simple annual interest. How many years after Veeru's investment, will their balances, i.e., principal plus accumulated interest, be equal? **CAT 2020**

80. A person spent Rs 50000 to purchase a desktop computer and a laptop computer. He sold the desktop at 20% profit and the laptop at 10% loss. If overall he made a 2% profit then the purchase price, in rupees, of the desktop is **CAT 2020**

81. In May, John ought the same amount of wheat as he had bought in April, but spent 150 more due to price increase of rice and wheat by 20% and 12% respectively. If John had spent 450 on rice in April, then how much did he spend on wheat in May? **CAT 2020**
a) 590 b) 580 c) 560 d) 570

82. Anil buys 12 toys and labels each with the same selling price. He sells 8 toys initially at 20% discount on the labeled price. Then he sells the remaining 4 toys at an additional 25% discount on the discounted price. Thus, he gets a total of Rs. 2112, and makes a 10% profit. With no discounts, his percentage of profit would have been **CAT 2020**
a) 60 b) 50 c) 55 d) 54

83. A man buys 35 kg of sugar and sets a marked price in order to make a 20% profit. He sells 5 kg at this price, and 15 kg at a 10% discount. Accidentally, 3 kg of sugar is wasted. He sells the remaining sugar by raising the marked price by p percent so as to make an overall profit of 15%. Then p is nearest to **CAT 2020**
a) 35 b) 31 c) 22 d) 25

84. Amal invests Rs 12000 at 8% interest, compounded annually, and Rs 10000 at 6% interest, compounded semi-annually, both investments being for one year. Bimal invests his money at 7. 5% simple interest for one year. If Amal and Bimal get the same amount of interest, then the amount, in Rupees, invested by Bimal is? **CAT 2019**

85. A person invested a total amount of Rs 15 lakh. A part of it was invested in a fixed deposit earning 6% annual interest, and the remaining amount was invested in two other deposits in the ratio 2:1, earning annual interest at the rates of 4% and 3%, respectively. If the total annual interest income is Rs 76000 then the amount (in Rs lakh) invested in the fixed deposit was. **CAT 2019**

86. Gopal borrows Rs. X from Ankit at 8% annual interest. He then adds Rs. Y of his own money and lends Rs. X+Y to Ishan at 10% annual interest. At the end of the year, after returning Ankit's dues, the net interest retained by Gopal is the same as that accrued to Ankit. On the other hand, had Gopal lent Rs. X+2Y to Ishan at 10%, then the net interest retained by him would have increased by Rs. 150. If all interests are compounded annually, then find the value of X + Y. **CAT 2018**

87. John borrowed Rs. 2,10,000 from a bank at an interest rate of 10% per annum, compounded annually. The loan was repaid in two equal instalments, the first after one year and the second after another year. The first instalment was interest of one year plus part of the principal amount, while the second was the rest of the principal amount plus due interest thereon. Then each instalment, in Rs. is: **CAT 2018**

Answer Key

1. A	2. D	3. 4480	4. 4%	5. 9%	6. B	7. B	8. A
9. E	10. B	11. A	12. C	13. D	14. 1000	15. E	16. D
17. C	18. 21	19. One	20. C	21. D	22. 12000	23. 3200	24. B
25. D	26. C	27. C	28. 3150	29. 57656.25	30. 1464.1	31. 33056	32. 55.0625
33. 55636.2	34. C	35. B	36. D	37. 10%	38. B	39. D	40. C
41. D	42. D	43. B	44. B	45. 2 yr	46. D	47. D	48. D
49. D	50. D	51. D	52. C	53. 1280	54. 20%	55. C	56. D
57. C	58. B	59. 3300	60. 38400	61. B	62. B	63. B	64. B
65. B	66. C	67. C	68. A	69. A	70. C	71. D	72.
73. C	74. A	75. B	76. C	77. 16000	78. 90000	79. 12	80. 20000
81. C	82. B	83. D	84. 20920	85. 9	86. 4000	87. 121000	