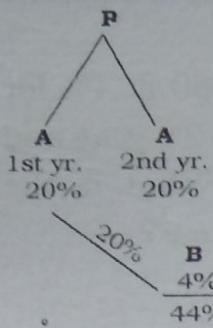
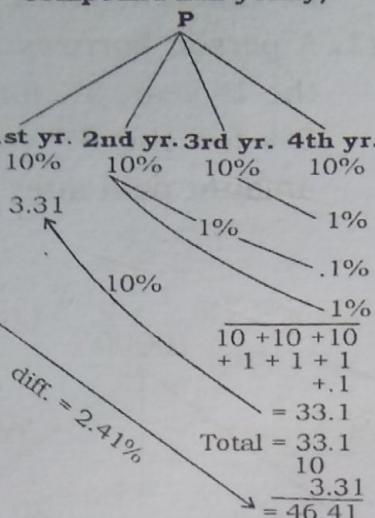


When interest compound annually



When interest compound half yearly (the Rate halved and time is doubled when Compound half yearly)



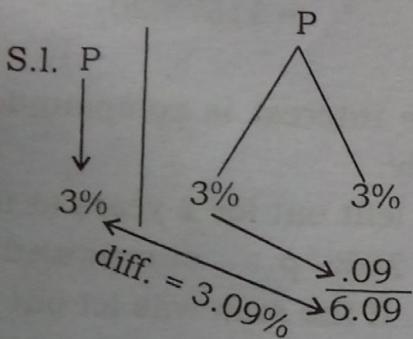
$$2.41\% \text{ of } P = 2410 \text{ (given)}$$

$$\frac{2.41}{100} \times P = 2410$$

$$P = \frac{2410 \times 100}{2.41} = 1,00,000/-$$

**E.g:** A money lender borrows a sum from market at simple interest at the rate 3% per annum and lent it out to another person at the rate of 6% per annum compounded half yearly. If after a year, he gets a profit of 618 then find out the sum borrowed by the money lender.

**Note:-** Rate halved time doubled



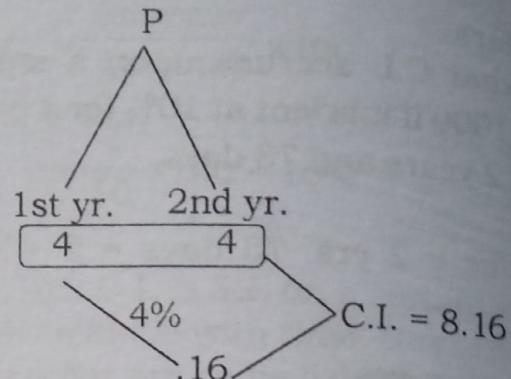
$$3.09\% \text{ of } P = 618$$

$$\frac{3.09}{100} \times P = 618$$

$$P = \frac{618 \times 100 \times 100}{309} = 20,000/-$$

**Note:** Now let us try another method too. This method is almost the same but here we do not change percentage into fraction.

**Eg.3** Suppose - If the interest is charged at 4% p.a. for 2 years compound annually.

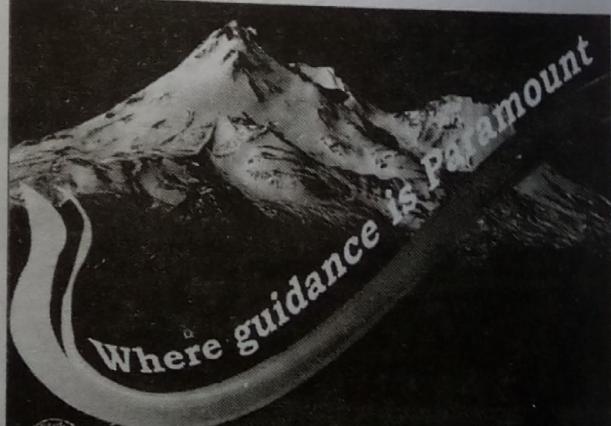


This can also be solved as  $4 + 4 +$

$$\frac{4}{100} \times 4 = 8.16$$

# Interview

for general competitions



by  
N.K.Raghupathy

Now let us try another very simple method. This is very easy but it has its limitations. Firstly it doesn't apply on percentage that are in fractions say  $16\frac{2}{3}\%$  or  $8\frac{1}{2}\%$ . Secondly we need to learn the following table for solving the question quickly though calculation is done in each question that follows for conceptual understanding.

### THIS METHOD BECOMES CONVENIENT IF WE FOLLOW THE TABLE GIVEN BELOW

S.No. (In percent)	Rate Compound interest (in percent) after two years
1. 2%	4.04%
2. 3%	6.09%
3. 4%	8.16%
4. 5%	10.25%
5. 6%	12.36%
6. 7%	14.49%
7. 8%	16.64%
8. 9%	18.81%
9. 10%	21%
10. 11%	23.21%
11. 12%	25.44%
12. 13%	27.69%

7.	8%	25.9712%
8.	9%	29.5029%
9.	10%	33.10%
10.	11%	36.7631%
11.	12%	40.4928%
12.	13%	44.2897%
13.	14%	48.1544%
14.	15%	52.0875%

S.No. (in percent)	Rate Compound interest (in percent) after three years
1. 2%	6.1208%
2. 3%	9.2727%
3. 4%	12.4864%
4. 5%	15.7625%
5. 6%	19.1016%
6. 7%	22.5043%

S.No. (in percent)	Rate Compound interest (in percent) after 4 years
1.	2% 8.243216%
2.	3% 12.550881%
3.	4% 16.985856%
4.	5% 21.550625%
5.	6% 26.247696%
6.	7% 31.079601%
7.	8% 36.048896%
8.	9% 41.158161%
9.	10% 46.41%
10.	11% 51.807041%
11.	12% 57.351936%
12.	13% 63.047361%
13.	14% 68.896016%
14.	15% 74.900625%

**Questions with Solution**

1. ₹ 8000 is borrowed at compound interest at the rate of 4% per annum. What will be the amount to be paid after two years?

- (1) ₹ 8652.8      (2) ₹ 8562.8  
 (2) ₹ 8625.8      (3) ₹ 8650.8

1.1; The compound interest of the sum

$$\text{would be } \left(4 + 4 + \frac{4 \times 4}{100}\right)\% \text{ i.e.}$$

8.16% of the sum (for the given period)

Hence, the total amount to be paid would be  $(100 + 8.16)\%$  of the sum.

$$\therefore \frac{8000 \times 108.16}{100} = ₹ 8652.8$$

2. Ravi invested an amount of ₹ 10,000 at compound rate of 10 percent per annum for a period of three years. How much amount will Ravi get after three 3 years.?

- (1) ₹ 13210      (2) ₹ 13310  
 (3) ₹ 13410      (4) ₹ 18510

2.2; The total interest after 2 years

$$\text{would be } \left(10 + 10 + \frac{10 \times 10}{100}\right)\% \text{ i.e.}$$

21% of the sum & the total interest after 3 yrs. would be

$$\left(21 + 10 + \frac{21 \times 10}{100}\right)\% \text{ i.e. } 33.1\% \text{ of}$$

the sum.

Hence, the total amount to be paid would be  $(100 + 33.1)\%$  of the sum.

$$\therefore \frac{10000 \times 133.1}{100} = ₹ 13310$$

3. Murlee invested an amount of ₹ 12,000 at compound interest rate of 5 percent per annum for a period of four years. Approximately how much amount will Murlee get after 4 yrs.?

- (1) ₹ 14700      (2) 14,600  
 (3) ₹ 14,500      (4) ₹ 14586

3.4; The total interest for the first 2 years would be  $\left(5 + 5 + \frac{5 \times 5}{100}\right)\%$

i.e. 10.25% of the sum.

Similarly, the total interest for the last two years would be

$$\left(5 + 5 + \frac{5 \times 5}{100}\right)\% \text{ i.e. } 10.25\% \text{ of the}$$

increased sum.

Hence, the total interest at the end of four years would be

$$\left(10.25 + 10.25 + \frac{10.25 \times 10.25}{100}\right)\%$$

i.e. 21.550625% of the sum

$$\begin{aligned} \text{Thus, the total amount to be paid} \\ &= (100 + 21.550625)\% \text{ of } 12000 \\ &= 121.550625 \times 120 \\ &= 14586.075 \end{aligned}$$

₹ 9000 is borrowed at C.I. at the rate of 6% per annum. What will be the amount to be paid after 1 year if interest is compound half yearly?

- (1) ₹ 9448      (2) ₹ 9548.10  
 (3) ₹ 9648.10      (4) ₹ 9748.10

4.2;

The total interest for the two consecutive periods of six month each would be

$$= \left( \frac{6}{2} + \frac{6}{2} + \frac{\frac{6}{2} \times \frac{6}{2}}{100} \right) \%$$

$$= \left( 3 + 3 + \frac{3 \times 3}{100} \right) \% \text{ i.e. } 6.09\% \text{ of the sum.}$$

Hence, the amount to be paid after one year would be  $(100 + 6.09)\%$  i.e. 106.09% of the sum.

∴ Required amount

$$= \frac{9000 \times 106.09}{100} = ₹ 9548.10$$

5. ₹11,000 is borrowed at C.I. at the rate of 24% per annum. What will be the approximate amount to be paid after 1 year? It is given that interest is compound quarterly.

- (1) ₹15150      (2) ₹14150  
 (3) ₹13150      (4) ₹12150

- 5.1; During the first two quarters, the sum would increase by.

$$\left( \frac{24}{4} + \frac{24}{4} + \frac{\frac{24}{4} \times \frac{24}{4}}{100} \right) \%$$

$$= \left( 6 + 6 + \frac{6 \times 6}{100} \right) \% \text{ i.e. } 12.36\% \text{ of the sum.}$$

During the last two quarters the increased sum once again increases by 12.36%.

Thus, at the end of the fourth quarter the total interest would be

$$\left( 12.36 + 12.36 + \frac{12.36 \times 12.36}{100} \right) \% \text{ i.e. } 26.247696\% \text{ of the sum.}$$

6.

Hence, the required amount to be paid =  $\frac{12000 \times 126.247696}{100}$

$\approx 15,150$  (approximately)

₹13,000 is borrowed at C.I. at the rate of 2% for the first year, 4% for the second year and 5% for the third year. What would be the amount to be paid after three years?

- (1) ₹13479.92      (2) 13749.92  
 (3) ₹15000      (4) ₹14479.92

- 6.4; Here after two years, the interest

$$\text{would be } \left( 2 + 4 + \frac{2 \times 4}{100} \right) \% \text{ i.e. } 6.08\% \text{ of the sum}$$

After three years, the interest

$$\text{would be } \left( 6.08 + 5 + \frac{6.08 \times 5}{100} \right) \% \text{ i.e. } 11.3840\% \text{ of the sum}$$

Thus, at the end of the third year the total amount to be paid would be  $(100 + 11.3840)\%$  of the sum.

∴ Required amount

$$= \frac{13000 \times 111.3840}{100} = ₹ 14479.92$$

7. At What rate percent per annum will ₹1000 amount to ₹1331 in 3 years when interest is compound yearly?

- (1) 8%      (2) 10%  
 (3) 12%      (4) 14%

- 7.2; Note. that the interest ₹331 is 33.1% of the sum ₹1000.  
 Hence, reject the options (3) and (4). Because at the rate of 12% and 14% even simple interest would be 36% and 42% (respectively) of the sum.

At the rate of 8% C.I. would be less than 26%.

Hence, reject the option (1) now  
check (2)

$$\text{I. } 10 + 10 + \frac{10 \times 10}{100} = 21\%$$

$$\text{II. } 21 + 10 + \frac{21 \times 10}{100} = 33.1\%$$

Thus, option (2) satisfies the given data.

8. What would be the amount of ₹ 10,000 at compound interest in  $2\frac{1}{2}$  years at 10 percent?

- (1) ₹ 12810      (2) ₹ 12510  
(3) ₹ 12710      (4) ₹ 12910

- 8.3; The total interest after two years

$$\text{would be } \left(10 + 10 + \frac{10 \times 10}{100}\right)\%$$

i.e. 21% of the sum.

And the total interest after  $2\frac{1}{2}$  years would be

$$\left(21 + \frac{10}{2} + \frac{21 \times \frac{10}{2}}{100}\right)\%$$

$$= \left(21 + 5 + \frac{21 \times 5}{100}\right)\% = 27.10\% \text{ of the sum}$$

Hence, the required amount will be

$$= \frac{127.10 \times 10,000}{100} = 12710$$

9. A sum of money placed at compound interest doubles itself in 4 years. In how many years will it amount to eight times itself?

- (1) 8 yrs.      (2) 9 yrs.  
(3) 12 yrs.      (4) 16 yrs.

9.3; Suppose the sum be ₹  $x$

After 4 years.

Amount  
 $2x$

again,

After 4 years.

$2x \times 2 = 4x$

again,

After 4 years.

$4x \times 2 = 8x$

Hence, after  $(4 + 4 + 4) = 12$  years, the sum would be eight times itself.

10. At what rate percent compound interest does a sum of money becomes nine fold in two years?

- (1) 100%      (2) 200%  
(3) 150%      (4) 300%

- 10.2; Here ratio of sum and interest is 1:8. Hence, the total interest is 800% of the sum after two years. Now, suppose the rate of interest is  $x\%$ , then

$$x + x + \frac{x + x}{100} = 800$$

$$\therefore x = 200\%$$

You can go through the given options

Interest	Total interest
----------	----------------

$$1. \quad 100 \quad 100 + 100 + \frac{100 \times 100}{100} \\ = 300\% \text{ of sum}$$

$$2. \quad 200 \quad 200 + 200 + \frac{200 \times 200}{100} \\ = 800\% \text{ of sum}$$

$$3. \quad 150 \quad 150 + 150 + \frac{150 \times 150}{100} \\ = 525\% \text{ of sum}$$

$$4. \quad 300 \quad 300 + 300 + \frac{300 \times 300}{100} \\ = 1500\% \text{ of sum}$$

Also, note that if a sum becomes 9 times in two years then it can be deduced that the sum becomes 3 times in one year. Thus at the end of one year ratio of sum and interest is 1:2. Thus, the interest is 200% of the sum.

11. If the compound interest on a sum for 2 years at 3% be ₹ 730.80. What would be the simple interest?  
 (1) ₹ 700                                 (2) ₹ 705  
 (3) ₹ 710                                 (4) ₹ 720

- 11.4; Total C.I. at the end of two years would be

$$3 + 3 + \frac{3 \times 3}{100} = 6.09\% \text{ of the sum}$$

whereas the total simple interest at the end of two years would be  
 $3 + 3 = 6\%$  of the sum

Hence, ₹ 730.80 is 6.09% of the sum and we have to find out 6% of the sum.

Required simple interest

$$= \frac{730.80}{6.09} \times 6 = ₹ 720$$

12. The simple interest on a certain sum of money for 2 years at 12% per annum is ₹ 3120. What would be the compound interest at the same rate and for the same time ?

- (1) ₹ 3507.80                             (2) ₹ 3407.20  
 (3) ₹ 3207.20                             (4) ₹ 3307.20

- 12.4; The total simple interest at 12% per annum for two years would be  $(12 \times 2)$  = 24% of the total sum.  
 Whereas the total compound interest at 12% per annum for two years would be.

$$\left( 12 + 12 + \frac{12 \times 12}{100} \right)\%$$

i.e. 25.44% of the total sum.  
 Hence ₹ 3120 is 24% of the sum.  
 And we have to find out 25.44% of the sum.

$\therefore$  Required compound interest

$$= \frac{3120}{24} \times 25.44 = ₹ 3307.20$$

13. The compound interest on certain sum for 2 years is ₹ 376.20 and simple interest is ₹ 360. What is the sum?

- (1) ₹ 2000                                 (2) ₹ 2100  
 (3) ₹ 2200                                 (4) ₹ 2300

- 13.1; From the given information  $(376.20 - 360)$  i.e. 16.20 is the interest on ₹ 180 for one year.  
 Thus, the rate of interest

$$= \frac{16.20}{180} \times 100 [\because \text{S.I. for 1 yr. is ₹ 180}]$$

$$= 9\%$$

Now,  $(9 \times 2)$  = 18% of the sum is ₹ 360

$$\text{Therefore the sum} = \frac{360}{18} \times 100$$

$$= 20 \times 100 = ₹ 2000$$

14. The simple interest on a certain sum for two years at the rate of 5% per annum is ₹ 160. What would be the difference of compound interest and simple interest for the same period and at the same rate of interest?

- (1) ₹ 3   (2) ₹ 4  
 (3) ₹ 5   (4) ₹ 4.5

14.2; **For 2 years**

S.I. =  $5 \times 2 = 10\%$  of the sum

$$\text{C.I.} = 5 + 5 + \frac{5 \times 5}{100} = 10.25\% \text{ of the sum}$$

Hence the required difference would be  $(10.25 - 10) = 0.25\%$  of the sum

Also, we have 10% of the sum that is ₹ 160

Thus, the required difference

$$= \frac{160}{10} \times 0.25 = ₹ 4$$

15. The difference between the compound interest and the simple interest on a certain sum of money at 6% per annum for 2 years is ₹ 6.48. What is the sum?

- (1) ₹ 1600                      (2) ₹ 1648  
 (3) ₹ 1800                      (4) ₹ 1900

15.3; **For 2 years**

S.I. =  $6 \times 2 = 12\%$  of the sum

$$\text{C.I.} = 6 + 6 + \frac{6 \times 6}{100} = 12.36\% \text{ of the sum}$$

Hence the difference between C.I. and S.I. is 0.36% of the sum  
And we have

$$0.36\% \text{ of the sum} = ₹ 6.48$$

$$\therefore \text{Required Sum} = \frac{6.48}{0.36} \times 100$$

$$= \frac{648}{36} \times 100 = ₹ 1800$$

16. What would be the difference between the compound interest and the simple interest for the sum ₹ 1900 at 11% per annum for 2 years?

- (1) ₹ 23                            (2) ₹ 24  
 (3) ₹ 22                            (4) ₹ 22.99

16.4; **For 2 years**

S.I. =  $11 + 11 = 22\%$  of the sum

$$\text{C.I.} = 11 + 11 + \frac{11 \times 11}{100} = 23.21\% \text{ of the sum}$$

So, the difference is  $\frac{11 \times 11}{100} = 1.21\% \text{ of the sum}$

$$\therefore \text{Required difference} = \frac{1.21}{100} \times 1900 \\ = ₹ 22.99$$

17. The difference between compound interest and simple interest on a certain sum of money for 3 years at 10% per annum is ₹ 806. What is that sum?

- (1) ₹ 25000                      (2) ₹ 26000  
 (3) ₹ 27000                      (4) ₹ 26500

17.2; **For 3 years**

S.I. =  $10 + 10 + 10 = 30\%$  of the sum

$$\text{C.I.} = 21 + 10 + \frac{21 \times 10}{100} \\ = 33.1\% \text{ of the sum}$$

[∴ For 2 years

$$\text{C.I.} = 10 + 10 + \frac{10 \times 10}{100} = 21\% \text{ of the sum]$$

Thus, we can conclude that  $(33.1 - 30) = 3.1\%$  of the sum is ₹ 806

Hence, the required sum

$$= \frac{806}{3.1} \times 100 = ₹ 26000$$

18. What would be the difference between compound interest and simple interest for 3 years at 8% per annum for a sum of ₹ 9000?

- (1) ₹ 177.408                    (2) ₹ 178.40  
 (3) ₹ 179.40                    (4) ₹ 180

18.1; For 3 years

$$S.I. = 8 + 8 + 8 = 24\% \text{ of the sum}$$

$$C.I. = 16.64 + 8 + \frac{16.64 \times 8}{100}$$

$$= 25.9712\% \text{ of the sum}$$

$\therefore$  For 2 years

$$C.I. = 8 + 8 + \frac{8 \times 8}{100} = 16.64\% \text{ of the sum}$$

Hence, the difference between C.I. and S.I. for three years is  $(25.9712 - 24) = 1.9712\%$  of the sum

Required difference

$$= \frac{1.9712 \times 9000}{100} = 1.9712 \times 90$$

$$= ₹ 177.408$$

19. An amount of money grows upto ₹ 31,944 in 3 years and upto ₹ 35,138.40 in 4 years on compound interest. What is the rate percent?

- (1) 8%                      (2) 9%  
 (3) 10%                      (4) 11%

19.3; Here the difference between ₹ 35,138.40 and ₹ 31,944 is the interest on ₹ 31,944 in one year. Hence, the required rate percent

$$= \frac{(35138.40 - 31944)}{31944} \times 100$$

$$= \frac{3194.4}{31944} \times 100 = 10\%$$

20. An amount of money grows upto ₹ 86,400 in 2 years and upto ₹ 103,680 in 3 years on compound interest. What is the sum?

- (1) ₹ 50,000                (2) ₹ 58,000  
 (3) ₹ 60,000                (4) ₹ 61,000

20.3; Let us find the rate of interest

$$r = \frac{(103680 - 86400)}{86400} \times 100$$

$$= \frac{172800 \times 100}{86400} = 20\%$$

Total interest after two years

$$\text{was } (20 + 20 + \frac{20 \times 20}{100}) = 44\% \text{ of}$$

the sum.

Thus, it is obvious that ₹ 86,400 is 144% of the sum.

$$\therefore \text{Required sum} = \frac{86,400}{144} \times 100$$

$$= ₹ 60,000$$

21. ₹ 4000 becomes ₹ 5000 in 4 years at a certain rate of compound interest. What will be the sum at the end of 12 years?

- (1) ₹ 7812.50              (2) ₹ 7712.50  
 (3) ₹ 7612.50              (4) ₹ 7512.50

21.1; It is obvious from the statement that the C.I. after 4 years increases by

$$\frac{(5000 - 4000)}{4000} \times 100 \text{ i.e. } 25\%$$

During the next eight years the sum (₹ 5000) will increase by  $25 +$

$$25 + \frac{25 \times 25}{100} \text{ i.e. } 56.25\%$$

Hence, the amount after 12 years would be  $(100 + 56.25)\%$  i.e. 156.25% of 5000.

Required difference

$$= 5000 \times \frac{156.25}{100} = ₹ 7812.50$$

22. What would be the compound interest on ₹ 10,000 for three years if the rate of interest is 5% for the first year, 6% for the second year and 7% for the third year?

- (1) ₹ 1809.10      (2) ₹ 1909.10  
 (3) ₹ 1919.10      (4) ₹ 1900.10

22.2; Total interest after two years

would be  $5 + 6 + \frac{5 \times 6}{100}$  i.e. 11.30%

of the sum

Total interest after three years

would be  $11.30 + 7 + \frac{11.30 \times 7}{100}$  i.e.

19.091% of the sum

∴ Required difference

$$= 10,000 \times \frac{19.091}{100} = ₹ 1909.10$$

23. What sum of money at compound interest will be the total compound interest amount to ₹ 2249.36 in 3 years if the rate of interest is 6% for the first year, 7% for the second year and 8% for the third year?

- (1) ₹ 9,000      (2) ₹ 10,000  
 (3) ₹ 11,000      (4) ₹ 12,000

23.2; Total interest after 2 year would

be  $6 + 7 + \frac{6 \times 7}{100} = 13.42\%$  of the sum

Total interest after three years

would be  $13.42 + 8 + \frac{13.42 \times 8}{100}$  i.e.

22.4936% of the sum

Thus, we get that ₹ 2249.36 is 22.4936% of the sum.

Required difference

$$= \frac{2249.36}{22.4936} \times 100 = ₹ 10,000$$

24. A man borrows ₹ 6000 at 10% compound rate of interest. At the end of each he pays back ₹ 2000. How much amount should he pay at the end of the third year to clear all his dues?

- (1) ₹ 3360      (2) ₹ 3366  
 (3) ₹ 1366      (4) ₹ 4366

24.2; Interest in 1st year = 10% of 6000  
 $= ₹ 600$

$$\begin{aligned}\text{Interest in 2nd year} &= 10\% \text{ of } (6000 \\ &\quad + 600 - 2000) \\ &= 10\% \text{ of } 4600 \\ &= ₹ 460\end{aligned}$$

$$\begin{aligned}\text{Interest in 3rd year} &= 10\% \text{ of } (4600 \\ &\quad + 460 - 2000) \\ &= 10\% \text{ of } 3060 \\ &= ₹ 306\end{aligned}$$

Hence, the total amount the man pays at

$$\begin{aligned}\text{the end of 3rd year} &= \underbrace{2000}_{\text{fixed payment}} + \\ &600 + 460 + 306 = 3366 \\ \text{or, } 3060 + 10\% \text{ of } 3060 \\ &\text{i.e. } 3060 + 306 = 3366\end{aligned}$$

25. Divide ₹ 20,816 between A and B, so that A's share at the end of 7 years may equal B's share at the end of 9 years compound interest being 4%.

- (1) ₹ 10,716 ₹ 10,100  
 (2) ₹ 10,616, ₹ 10,200  
 (3) ₹ 10,816, ₹ 10,000  
 (4) ₹ 10,800, ₹ 10,016

25.3; Here,

$$\begin{aligned}&2\text{nd part} + (4+4+\frac{4 \times 4}{100})\% \text{ of the 2nd} \\ &\text{part} = 1\text{st part} \\ \text{or, } &2\text{nd part} + 8.16\% \text{ of the 2nd part} \\ &= 1\text{st part} \\ \text{or, } &108.16\% \text{ of the 2nd part} = 1\text{st part}\end{aligned}$$

$$\text{or, } \frac{\text{1st part}}{\text{2nd part}} = \frac{108.16}{100} = \frac{10816}{10000}$$

i.e. = ₹ 10,816 and ₹ 10,000

26. A man borrowed ₹ 1100 at 6 percent per annum compound interest. He pays equal annual repayment of ₹ x and clear off his debts in 3 years. What is the value of x approximately?

- (1) ₹ 409.52      (2) ₹ 410.52  
 (3) ₹ 408.52      (4) ₹ 411.52

26.4; Let ₹ A be the amount of each repayment.

Then,

$$A \times \frac{100}{106} + A \times \left(\frac{100}{106}\right)^2 + A$$

$$\left(\frac{100}{106}\right)^3 = 1100$$

$$A \times \left[ \frac{50}{53} + \left(\frac{50}{53}\right)^2 + \left(\frac{50}{53}\right)^3 \right] = 1100$$

$$\begin{aligned} A &\times \frac{1100}{\frac{50 \times 53^2 + 50^2 \times 53 + 50^3}{53^3}} \\ &= \frac{1100 \times 148877}{140450 \times 132500 + 125000} \\ &= \frac{1100 \times 148877}{397950} \\ &= \frac{22 \times 148877}{7959} \\ &= \frac{3275294}{7959} \approx ₹ 411.52 \end{aligned}$$

# EXERCISE

1. What is compound interest accrued on an amount of ₹ 45,000 in two years at 9 p.c.p.a.?
  - (1) ₹ 8,600
  - (2) ₹ 8,565.40
  - (3) ₹ 8,464.50
  - (4) ₹ 8,540
  - (5) None of these
  
2. What will be the difference between the compound interest and the simple interest at the rate of 5 p.c.p.a. on an amount of ₹ 4,000 at the end of two years?
  - (1) ₹ 10
  - (2) ₹ 20
  - (3) ₹ 25
  - (4) Data inadequate
  - (5) None of these
  
3. Mr. Sharma invested an amount of ₹ 25,000 in fixed deposit at compound interest 8 p.c.p.a. for two years. What amount Mr. Sharma will get on maturity?
  - (1) ₹ 28,540
  - (2) ₹ 29,160
  - (3) ₹ 29,240
  - (4) ₹ 28,240
  - (5) None of these
  
4. A sum of money fetches ₹ 408 as compound interest at the rate of 4 p.c.p.a. at the end of two years. What is the sum?
  - (1) ₹ 6,000
  - (2) ₹ 5,000
  - (3) ₹ 4,000
  - (4) Can't be determined
  - (5) None of these
  
5. What will be the compound interest earned on an amount of ₹ 12000 at 10 p.c.p.a. in two years?
  - (1) ₹ 2,400
  - (2) ₹ 2,420
  - (3) ₹ 2,500
  - (4) ₹ 2,540
  - (5) None of these
  
6. What will be compound interest on a sum of ₹ 1000 at the rate of 10 p.c.p.a. after 5 years?
  - (1) ₹ 610.51
  - (2) ₹ 559.45
  - (3) ₹ 665.50
  - (4) ₹ 665.51
  - (5) None of these
  
7. Difference between the compound interest and simple interest accrued in two years at 8 p.c.p.a. is ₹ 128. What is the principal amount?
  - (1) ₹ 18000
  - (2) ₹ 16000
  - (3) ₹ 20000
  - (4) Can't be determined
  - (5) None of these
  
8. A certain sum, invested at 4% per annum at compound interest, compounded half-yearly, amounts to ₹ 7,803 at the end of one year. The sum is
  - (1) ₹ 7,000
  - (2) ₹ 7,200
  - (3) ₹ 7,500
  - (4) ₹ 7,700
  - (5) None of these
  
9. The difference between compound and simple interest on a certain sum for 3 years at 5% per annum is ₹ 122. The sum is
  - (1) ₹ 16,000
  - (2) ₹ 15,000
  - (3) ₹ 12,000
  - (4) ₹ 10,000
  - (5) None of these
  
10. A certain sum amounts to ₹ 5,832 in 2 years at 8% per annum at compound interest, the sum is
  - (1) ₹ 5,000
  - (2) ₹ 5,200
  - (3) ₹ 5,280
  - (4) ₹ 5,400
  - (5) None of these

11. The compound interest on a certain sum of money at 5% per annum for 2 years is Rs. 246. The simple interest on the same sum for 3 years at 6% per annum is  
 (1) ₹ 435    (2) ₹ 450  
 (3) ₹ 430    (4) ₹ 432  
 (5) None of these
12. A sum of money becomes ₹ 4500 after two years and ₹ 6750 after 4 years compounded annually. The sum is  
 (1) ₹ 4000    (2) ₹ 2500  
 (3) ₹ 3000    (4) ₹ 3050  
 (5) None of these
13. At what rate per cent per annum will ₹ 2304 amount to ₹ 2500 in 2 years compounded annually?  
 (1)  $4\frac{1}{2}\%$     (2)  $4\frac{1}{5}\%$   
 (3)  $4\frac{1}{6}\%$     (4)  $4\frac{1}{3}\%$   
 (5) None of these
14. The difference between simple and compound interest on a certain sum of money for 2 years at 4 per cent per annum, is ₹ 1. The sum of money is  
 (1) ₹ 600    (2) ₹ 625  
 (3) ₹ 560    (4) ₹ 650  
 (5) None of these
15. A sum of money invested at compound interest doubles itself in 6 years. At the same rate of interest it will amount to eight times of itself in-  
 (1) 15 years    (2) 12 years  
 (3) 18 years    (4) 10 years  
 (5) None of these
16. If the amount is 2.25 times of the sum after 2 years at compound interest (compounded annually), the rate of interest per annum is  
 (1) 25%    (2) 30%  
 (3) 45%    (4) 50%  
 (5) None of these
17. At what rate per annum will ₹ 32,000 yield a compound interest of ₹ 5044 in 9 months interest being compounded quarterly?  
 (1) 20%    (2) 32%  
 (3) 50%    (4) 80%  
 (5) None of these
18. The difference between simple and compound interests on a sum of money at 4% per annum for 2 years is ₹ 8. The sum is  
 (1) ₹ 400    (2) ₹ 800  
 (3) ₹ 4,000    (4) ₹ 5,000  
 (5) None of these
19. A sum of money becomes eight times of itself in 3 years at compound interest. The rate of interest per annum is  
 (1) 100%    (2) 80%  
 (3) 20%    (4) 10%  
 (5) None of these
20. If the compound interest on a sum for 2 years at  $12\frac{1}{2}\%$  per annum is ₹ 510, the simple interest on the same sum at the same rate for the same period of time is  
 (1) ₹ 400    (2) ₹ 480  
 (3) ₹ 450    (4) ₹ 460  
 (5) None of these
21. Find the amount of ₹ 6400 in 1 year 6 months at 5 p.c.p.a. compound interest, interest being calculated half-yearly.  
 (1) ₹ 6792.50    (2) ₹ 6892.10  
 (3) ₹ 6882.50    (4) ₹ 6895.10  
 (5) None of these
22. Find the compound interest on ₹ 10,000 in 9 months at 4 p.c.p.a., interest payable quarterly.  
 (1) ₹ 303.01    (2) ₹ 304.02  
 (3) ₹ 304.05    (4) ₹ 305.04  
 (5) None of these