

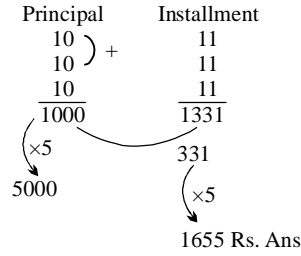


COMPOUND INTEREST

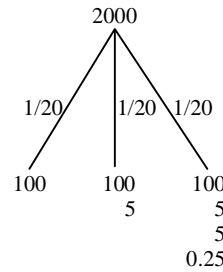
1. The compound interest on Rs. 5,000 for 3 years at 10% p.a. will amount to:
(a) Rs. 1,654 (b) Rs. 1,655 (c) Rs. 1,600 (d) Rs. 1,565
2. A man invests Rs. 2000 at 5% compound interest. At the end of 3 years he will have :
(a) ₹ 2316.25 (b) ₹ 2305 (c) ₹ 2205 (d) ₹ 2315.25
3. The sum of money which becomes Rs. 2420 at 10% rate of compound interest after two years is
(a) Rs. 2000 (b) Rs. 2500 (c) Rs. 1000 (d) Rs. 1500
4. Two years ago, the value of my motorbike was Rs. 62500. If the value depreciates by 4% every year, now its
(a) Rs. 56700 (b) Rs. 57600 (c) Rs. 57500 (d) Rs. 55700
5. The time in which Rs. 80,000 amounts to Rs. 92,610 at 10% p.a. compound interest, interest being compounded semiannually is :
(a) $1\frac{1}{2}$ Years (b) 2 years (c) $2\frac{1}{2}$ years (d) 3 years
6. The difference between simple interest and compound interest of a certain sum of money at 20% per annum for 2 years is Rs. 48. Then the sum is:
(a) ₹ 1,000 (b) ₹ 1,200 (c) ₹ 1,500 (d) ₹ 2,000
7. The difference between the compound interest and simple interest on Rs. 10,000 for 2 years is 25. The rate of interest per annum is :
(a) 5% (b) 7% (c) 10% (d) 12%
8. If the difference between S.I. and C.I. for 2 years on a sum of money lent at 5% is Rs. 6, then the sum is
(a) ₹ 2200 (b) ₹ 2400 (c) ₹ 2600 (d) ₹ 2000
9. The difference between the compound interest and simple interest for the amount Rs. 5,000 in 2 year is Rs. 32. The rate of interest is :
(a) 5% (b) 8% (c) 10% (d) 12%
10. A sum of money becomes eight times in 3 years, if the rate is compounded annually. In how much time will the same amount at the same compound rate become sixteen times?
(a) 6 years (b) 4 years (c) 8 years (d) 5 years
11. A sum of money placed at compound interest double itself in 4 years. In how many years will it amount to four times itself?
(a) 12 years (b) 13 years (c) 8 years (d) 16 years
12. A sum of money at compound interest amounts to thrice itself in 3 years. In how many years will it be 9 times itself ?
(a) 2.5 years (b) 2 years (c) 6 years (d) 3 years
13. The compound interest on a sum of money for 2 years is Rs. 615 and the simple interest for the same period is Rs. 600. Find the principal.
(a) Rs. 6,500 (b) Rs. 6,000 (c) Rs. 8,000 (d) Rs. 9,500
14. The compound interest on a certain sum of money for 2 years at 5% per annum is Rs. 410. The simple interest on the same sum at the same rate and for the same time is
(a) Rs. 400 (b) Rs. 300 (c) Rs. 350 (d) Rs. 405
15. The compound interest on Rs. 30,000 at 7% per annum for a certain time is Rs. 4,347. The time is :



- (a) 3 years (b) 4 years
(c) 2 years (d) 2.5 years
16. A sum of Rs. 8000 will amount to Rs. 8820 in 2 years if the interest is calculated every year. The rate of compound interest is :
(a) 6% (b) 7%
(c) 3% (d) 5%
17. A principal of Rs. 10,000, after 2 years compounded annually, the rate of interest being 10% per annum during the first year and 12% per annum during the second year (in rupees) will amount to :
(a) Rs. 12,000 (b) Rs. 12,320
(c) Rs. 12,500 (d) Rs. 21,000



2.



18. The compound interest on a certain sum of money for 2 years at 10% per annum is Rs. 420. The simple interest on the same sum at the same rate and for the same time will be :
(a) ₹ 350 (b) ₹ 375
(c) ₹ 380 (d) ₹ 400
19. An amount of money at compound interest grows up to Rs. 3,840 in 4 years and up to Rs. 3,936 in 5 years. Find the rate of interest.
(a) 2.5% (b) 2%
(c) 3.5% (d) 2.05%
20. A certain amount of money at r% compounded annually after two and three years becomes Rs. 1440 and Rs. 1728 respectively, r% is
(a) 5 (b) 10
(c) 15 (d) 20

P = 2000 Rs.

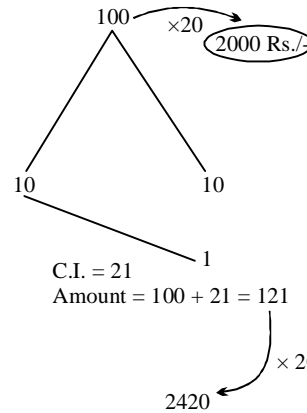
$$R = 5\% = \frac{1}{20}$$

$$= \text{C.I.} = 315.25$$

$$\text{Amount} = (2000 + 315.25) = 2315.25$$

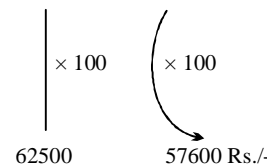
3. Let principal = 100 Rs./-

$$\text{Rate} = 10\% = \frac{1}{10}$$



4. Rate of depreciation = 4% = $\frac{1}{25}$

Year	Value of Beginning	Value at End
1st -	25	24
2nd -	625	576



HINTS & SOLUTIONS

1. Principal = 5000 Rs./-
Time = 3 year
Rate = 10% = $\frac{1}{10}$

Present Value of motorbike = 57600 Rs./-

5. $10\% = \frac{1}{10}$
 $80000 : 92610$
 $(20)^3 : (21)^3$

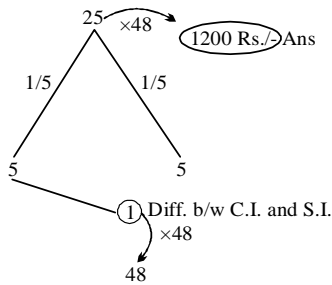
So time = 3 year

Note = when interest is calculated semi - annually

So, 6 month = 1 year

Time = 3 year = $\frac{3}{2}$ year

6. Rate = $20\% = \frac{1}{5}$,
 Let principal = $(5)^2 = 25$



7. For 2 years

$$\frac{D}{P} = \left(\frac{r}{100}\right)^2$$

where D = Diff. b/w C.I. and S.I.

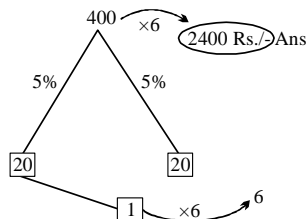
P = Principal

R = Rate of Interest

$$\frac{25}{1000} = \frac{r^2}{10000}$$

$$r^2 = 25 = r = 5\%$$

8. Rate of Interest = $5\% = \frac{1}{20}$
 Let Principal = $(20)^2 = 400$

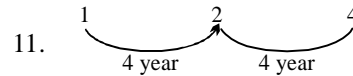
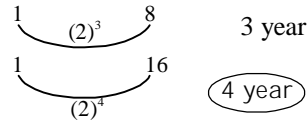


9. For 2 year

$$\frac{32}{5000} = \frac{4}{625} = \sqrt{\frac{4}{625}} = \frac{2}{25}$$

$$r = \frac{2}{25} \times 100 = 8\%$$

10. Principal Amount Time



$$= 8 \text{ year}$$

12. $10\% = \frac{1}{10} = \frac{1}{10}$
 $8000 \text{ ₹} : 9261 \text{ ₹}$
 $(20)^3 : (21)^3$

So time = 3 year Ans

13. C.I.-S.I. = $(615-600) = 15 \text{ Rs./}$

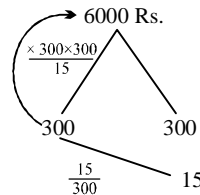
$$\text{S.I. for 1 year} = \frac{600}{2} = 300 \text{ Rs.}$$

$$\text{Rate of Interest} = \frac{15}{300} \times 100 = 5\%$$

5% of principal = 300

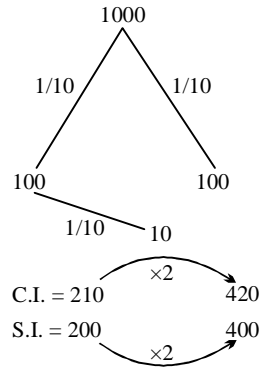
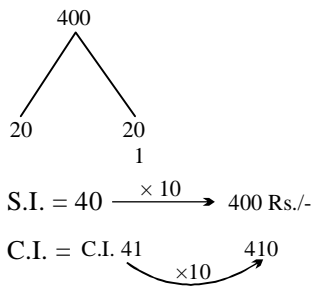
Principal = 600 Rs. / -

Another way :-

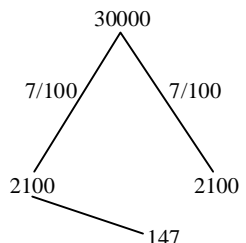


14. Rate = $5\% = \frac{1}{20}$

Let principal = $(20)^2 = 400$



15. $R = 7\% = \frac{7}{100}$
 $P = 30000, C.I. = 4347$

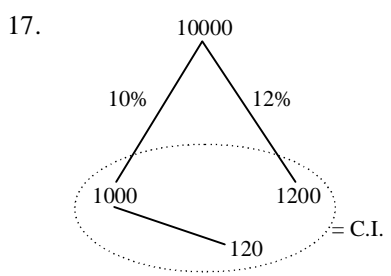


So, Time = 2 year

16. Time = 2 year
 $P : A$
 $8000 : 8820$
 $400 : 441$
 $(20)^2 : (21)^2$
 $R = \frac{1}{20} \times 100 = 5\%$

19. Let Principal = P
 Rate = R%
 $P \xrightarrow{4 \text{ year}} 3840 (A_1) \xrightarrow{4 \text{ year}} 3936 (A_2)$
 Difference (v.e) = 96 Rs./-
 Required Rate %
 $= \frac{96}{3840} \times 100 = 2.5\%$

20. $P \xrightarrow{2 \text{ year}} (A_1) 1440 \xrightarrow{1 \text{ year}} (A_2) 1728$
 Difference = 288
 $\text{Rate} = \frac{288}{1440} \times 100 = 20\%$



Amount = 10000 + 2320 = 12320 Rs./

18. Let $P = 1000, R = 10\% = \frac{1}{10}$