Simple And Compound Interest

1 . What sum of money will amount to Rs . 2704 in 2 years at 4 % compound interest ?

Answer :

Sum of money = x ,

$=> x \times \frac{104}{100} \times \frac{104}{100} = 2704$

$=> x = \frac{2704 \times 100 \times 100}{104 \times 104} = 2500\ Rs$

Ans : 2500 Rs

2 . The C.I on a sum of money for 2 years at 10 % is Rs: 168 . Find the simple interest ?

a) Rs . 150 b) Rs.158 c) 160 d) Rs. 164

Answer :

$\frac{SI}{CI} = \frac{200}{200+R}$ $=> \frac{SI}{168} = \frac{200}{200+10}$

$= \frac{SI}{100} = \frac{200}{210}$ $=> SI = \frac{200 \times 168}{210} = 160$

Ans : Rs 160

3 . In how many years will a sum of rs.1000 becomes, Rs.1331 at 10 % per annum compound annually?

A) 3 yrs b) 2 yrs c) 4 yrs d) 5 yrs

Answer :

$A = P(1 + \frac{r}{100})^n$ $= 1000\left(1 + \frac{10}{100}\right)^n = 1331$

$=> \left(\frac{110}{100}\right) power\ n = \frac{1331}{1000}$ $=> \left(\frac{11}{10}\right) power\ n = \frac{1331}{1000}$

$11^3 = 1331$ and $10^3 = 1000$ then n = 3

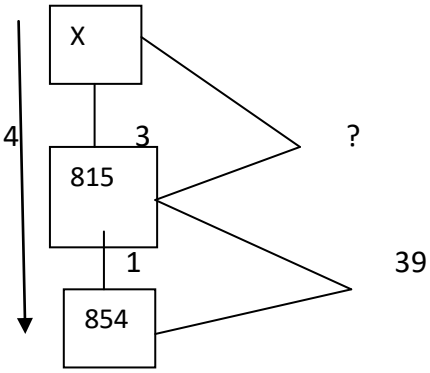
$=> \left(\frac{11}{10}\right) power 3 = \frac{1331}{1000} = 3$

Ans : 3 years

4 . A sum of money of simple interest amounts to Rs.815 in 3 years and to Rs. 854 in 4 years. Find the sum a) Rs.650 b) Rs. 690 c) Rs.698 d) 700

Answer :

Sum = x



1 => 39

3 = > ? => 117

⇨ 815 – 177 = 698

Ans : 698 Rs.

5 . What will be the simple interest earned on an amount of Rs.16800,in a months at the rate of 6 ¼ P.a ? a) Rs.699.75 b) Rs.787.50 c) Rs. 567.30 d) Rs. 897.60

Answer :

P = Rs.16800 , n = 9 months , = 9/12 = ¾

R = 6 ¼ % = 25/4 %

$$=> \frac{pnr}{100} \quad => \frac{16800 \times 3 \times 25}{100 \times 4 \times 4} => 787.50$$

Ans : 787.50 Rs.

6 . what will be the compound interest of a sum of Rs.2500 after 3 yrs at the rate 12 % per annum ?

A) Rs.20000, b) Rs.12800 c) Rs. 10123.20 d) rs.10000

Answer :

N = 3 years, then write three times of percentage

$$=> 25000 \times \frac{112}{100} \times \frac{112}{100} \times \frac{112}{100} => 35123.20$$

= > 35123.20 – 25000 = > 10123.20

Ans : 10123.20 Rs.

7 . At what rate of compound interest per annum will a sum of Rs.1200 become Rs. 1348.32 in 2 years.

Answer :

N = 2 years, then write three times of percentage

$$=> 1200 \times \frac{x}{100} \times \frac{x}{100} = 1348.32$$

$$=> x^2 = \frac{1348.32 \times 100 \times 100}{1200}$$

$$=> x^2 = 11236$$

=> x = 106 => 100+6 => 6 %

Ans : 6 %

8) The simple interest on Rs.7500 at 6 % per annum for 8 years is ?

A) Rs.4200 b) Rs.3600 c) Rs. 2500 d) Rs. 3400

Answer :

Pnr/100 $=> \frac{7500 \times 6 \times 8}{100}$ = 3600

Ans : 3600 Rs .

9 . Find the simple interest of Rs.8000 at 7 % per annum for 1 yrs 6 months ?

A) Rs.730 , b) Rs.800, c) Rs.840 d) 18/12

Answer :

N = 1 yrs 6 month = 18 months = 18/12

$$\frac{8000 \times 18 \times 8}{100\ X\ 12} = 840$$

Ans : 840 Rs .

10 . Find the simple interest of Rs. 1000 from april 9, 2010 to June 9 , 2010 at 7 ½ % per annum?

A) Rs.12.74 b) Rs. 12.50 c) Rs 13.07 d) 13.50

Answer :

April 9 , 2010 to June 9 , 2010

=> April = 21 days , May = 31 days June = 9 days

=> 21 + 31 + 9 = 61 days

=> 2010 is not a leep year , so 365 days

=> R = 7 ½ % = 15/2 %

$$=> \frac{1000 \times 61 \times 15}{100 \times 2 \times 365} = 12.53$$

Ans : 12. 53 Rs

11 . A bank gives 6 % SI on deposite . Find the amount to be deposited to earn on interest of Rs.45 in one year.

A) Rs.450 b) Rs.750 c) Rs.1000 d) Rs.800

Answer :

P = x

$$=> \frac{x \times 6 \times 1}{100} = 45 \quad => \quad x = \frac{45 \times 100}{6 \times 1} = 750$$

= > Ans : 750 Rs .

12. Find the rate of interest at which , a sum of money becomes 9/4 times in 2 years

A) 69 ½ % b) 67 ½ % c) 62 ½ % d) 61 ½ %

Answer :

9/4 is sum , so sum is 4 , interest is 5

$$=> \frac{pnr}{100} \quad => \frac{4 \times 2 \times x}{100} = \ 5$$

$$=> x = \frac{5 \times 100}{4 \times 2} = 62\ ½\ \%$$

Ans : 62 ½ %

13 . Simple interest of Rs.1000 at 10 % for 2 years is

A) Rs,1000 b) Rs 200 c) Rs.100 d) Rs. 2000

Answer :

$$\frac{pnr}{100} = \frac{1000 \times 10 \times 2}{100} = 200$$

Ans : 200 Rs.

14 . Find the rate percent at which a sum of money become 7/6 times in 3 yrs ?

A) 12 5 b) 5 5/9 % c) 6 5/9 d) 24 %

Answer :

7/6 is sim , then sum is 6 interest is 1

$$=> \frac{pnr}{100} => \frac{6 \times 3 \times x}{100 \times 1} => \quad x = \frac{100 \times 1}{6X2} = 5\ 5/9\ \%$$

Ans : 5 5/9 %

15 . In how many years will a sum of money double itself at 12 % per annum ?

A) 4 yrs 2 month b) 5 yrs 6 months c) 3 yrs 4 months d) 9 yrs 2 months .

Answer :

NR = 100 = > N = month , R = Rate of interest

[Amount will be double = 100, tripple = 200, Four = 300…..]

N X 12 = 100 = > N = 100/2 = 8.3333

= > 8 yrs , 12/3 = 4 months = > 8 yrs 4 months

Ans : 8 yrs 4 months .

16 . How many time will it have for an amount Rs. 2000 to double at a interest rate 3 % ?

A) 25.5 yrs b) 10.5 yrs c) 8.5 yrs d) 12.5 yrs

Answer :

Amount = p + I = 2000 + I

[double the amount = 2000 + 2000] = 4000

$$= \frac{pnr}{100} => \frac{2000 \times n \times 8}{100} = 2000$$

$$=> \quad n = \frac{2000 \times 100}{2000 \times 8} = 12.5\ yrs$$

Ans : 12.5 yrs

17 . A sum of money triples interest of 8 % per annum over a certain time , Find no.of years .

A) 25 yrs b) 20 yrs c) 30 yrs d) 15 yrs

Answer :

NR = 100 amount Tripple so take 200

= > N X 8 = 200 = > N = 200/8 = 25 yrs

Ans : 25 yrs .

18 . The difference in compound interest and simple interest of a certain amount at 10 % per annum at the end of the third year is Rs.930.The principle amount is

A) Rs. 20000 b) Rs. 25000 c) Rs. 30000 d) Rs. 30500

Answer :

$$\frac{pr2(300+r)}{100X100X100} => \frac{P\times 10\times 10(300+10)}{100\times 100\times 100} = 980$$

$$=> \quad P = \frac{980\times 100\times 100\times 100}{100\times 310} = 30000\ Rs.$$

Ans : 30000 Rs .

19 . The difference between C.I and S.I of an amount of RS.1500 for 2 yrs is Rs.96 then the rate of interest per annum.

A) 12 b) 8 c) 6 d) 10

Answer :

$Pr^2/100^2$ is two yrs.

$$=> \frac{15000\times r2}{100X100} = 96 \qquad => \frac{96X100X100}{15000}$$

$R^2 = 64$ => r= 8

Ans : 8

20 . Difference between SI and CI of an certain sum for 3 years , at 10 % per annum is Rs . 31 Find the sum.

A) Rs.3000 b) Rs.3100 c) Rs.1000 d) Rs.2000

Answer :

$Pr^2 (300 + r) / 100^3) = 3$ yrs

$$=> \frac{P\times 10\times 10(300+10)}{100\times 100\times 100} = 31$$

$$P = \frac{100\times 100\times 100\times 31}{100\times 310}$$

P = 1000 Rs

Ans : 1000 Rs

21 . Find the difference between SI and CI for a sum of Rs.8000 at 10 % P.a in 2 years.

A) Rs 90 b) Rs100 c) Rs.80 d) Rs.70

Answer :

Two years = $pr^2/100^2$ = $\frac{8000\times10\times10}{100\times100} = 80$

Answer : 80 Rs.

22 . The difference between SI and CI for a sum of RS.12000 sent at 10 % per annum in 2 yrs is,

A) Rs.80 b) Rs. 90 c) Rs. 120 d) Rs.100

Answer :

Two yrs = $pr^2/100^2$ $\frac{12000\times10\times10}{100\times100} = 120$

Ans : Rs. 120

23 . What will be the difference between SI and CI at 10 % per annum of a sum of RS.1000 after 4 years .

A) Rs.32.10 b) Rs.64.10 c) 65.20 d) Rs.66.45

Answer : [given 4 yrs they have no formula Find SI and CI sperately]

$$SI = \frac{phr}{100} => \frac{1000X4X10}{100} = 400\ Rs$$

$$CI = 1000 \times \frac{110}{100} \times \frac{110}{100} \times \frac{110}{100} \times \frac{110}{100} = 1464.10\ Rs$$

= > 1464.1 – 1000 = 464.10

= > 464.10 – 400 = 64.10

Ans : 64.10 Rs

24 . The difference between SI and CI for two years of a sum of money lent at 4 % is Rs.4.80 Find the sum.

Answer :

Two yrs = $pr^2/100^2$ = $\frac{P\times4\times4}{100\times100} = 4.80$

$=>$ $P = \frac{4.80\times100\times100}{4\times4}$ = 3000 Rs .

Ans : 3000 Rs

25 . A sum of Rs. 1550 was lent partly at 5 % and partly at 8 % per annum an simple interest . The total interest received at 3 years was Rs.300 . The ratio of the money lent at 5 % to the lent at 8 % is:

A) 5:8 b) 8:15 c) 16:15 d) 31:6

Answer :

P = 1550 , h = 3 yrs R_1 = 5 % R_2 = 8 %

P = 1550 – x	P = x
N = 3 yrs	n = 3 yrs
R_1 = 5 %	R_2 = 8 %

$$=> \frac{(1550 - x) \times 3 \times 5}{100} + \frac{x \times 3 \times 8}{100} = 300$$

$$= \frac{1550 \times 15 - 15x + 24x}{100} = 300$$

=> 9x = 30000 – 23250 = 6750

=> x = 750 => 1550 – 750 = 800

=> 5 % =800

=> 8% =750

=> 16 : 15

Ans : 16 : 15

26 . A sum of Rs.800 amount to rs.920 in 3 years of a simple interest. If theinterest rate is increased by 3 % what would Rs.800 amount to ?

A) 950 b) 970 c) 992 d) 1000

Answer :

Amount = P +I => 920 = 800 + I

I = 120

=> pnr / 100 => $\frac{800 \times 3 \times r}{100} = 120$

$$=> \frac{120 \times 1200}{800X3} => r = 5\ \%$$

=> increased by 3 % => 5 + 3 = 8 %

$$=> \frac{800 \times 8 \times 3}{100} = 192$$ 800 + 192 = 992

Ans : 992 Rs.

27 . If a lends of Rs.3000 to B at 10 % per annum is SI and B lends the same to C at 11.5 % per annum is SI then Find the gain of B in a period of 3 yrs .

Answer :

C is $= \frac{3500 \times 11.5 \times 3}{100} = 1207.50$

B is $=> \frac{3500 \times 10 \times 3}{100} = 1050$

The B gain is = > 1207.50 – 1050 = 157.50 Rs

Ans : 157.50 Rs

28 . A person invests a total of Rs.2600 in three different investements plans which given the return 4 % , 6 % , 8 % , SI . At the end of years if the interest get in all the three plan are the some the money he invested in the first plan [which gives 4 % interest] is

Answer :

SI on X at 4 % for 1 yrs

SI on Y at 6 % for 1 yrs

SI on Z at 8 % for 1 yrs

$$=> \frac{x \times 4 \times 1}{100} = \frac{y \times 6 \times 1}{100} = \frac{z \times 8 \times 1}{100}$$

= > 4 x = 6y = > 8 Z = > 2x = 3y = 4Z

= > y = 2x/3 and Z = 2x/4 Z = x/2

= > X + Y + Z = 2600

$$=> x + \frac{2x}{3} + \frac{x}{2} = 2600 \quad => \quad \frac{6x + 4x + 3x}{6} = 2600$$

= > 13x/6 = 2600 => 13x = 2600 X 6 = > X= 1200

Ans : 1200 Rs.

29 . If the rate of simple interest is 12 % per annum ,find the amount that get interest of Rs.6000 per annum ?

A) Rs.82000 b) Rs. 50000 c) Rs. 72000 d) Rs.45000

Answer :

$$\frac{x \times 12 \times 1}{100} = 6000 \quad => \quad x = \frac{6000 \times 100}{12 \times 1}$$

X = 50000

Ans : 5000 Rs.

30 . The sum that will give Rs.1 as simple interest per day at 5 % per annum ?

A) Rs.3600 b) Rs. 36500 c) Rs. 730 d) Rs.7300

Answer :

SI on 1 day = 1 Rs , so 1 year = 365 Rs.

$$=> \frac{x \times 5 \times 1}{100} = 365$$

$$=> \frac{365\ X100}{5}$$

X = 7300

Ans : 7300 Rs.