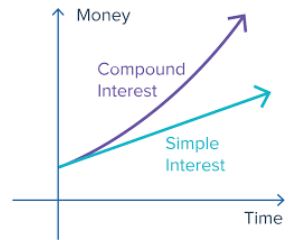


SIMPLE INTEREST



- **Principal:** The amount of money borrowed from someone or lent out to someone for a certain period is called principal.
- **Interest :** Extra money paid for the amount of money borrowed is called Interest.
- **Simple Interest :** If the interest on a sum borrowed for a certain period is reckoned uniformly , then it is called Simple interest.
- **Rate % (or) Rate of interest :**
 It is the interest rate at which amount is borrowed or lent to someone for a specific period of time is called **Rate of interest**. It is always indicated in percentage (%).
- **Time (T) :** Duration of time the principal is provided to an individual is called Time (T).
 Let's **P = Principal** , **Rate = R% per annum** & **Time = T years**,

$$S \cdot I = \frac{P \times T \times R}{100}$$

- **Amount (A) :** The sum of principal and the interest received on the principal for certain period of time is called Amount.

$$A = P + \frac{P \times T \times R}{100}$$

$$A = \frac{P (100 + TR)}{100}$$

Instalment: What annual instalment will discharge a debt of Rs . **A**(amount) in **T** (time) years at **R**%(rate of interest) per annum.

$$\frac{100A}{100T + \frac{RT(T-1)}{2}}$$

BASIC PROBLEMS:

1)

- (i) Find the simple interest on 6000₹ for 3 years at 10% per annum. **Ans: 1800**
- (ii) Find the simple interest on 810₹ for 2.5 years at $11\frac{1}{9}\%$ per annum. **Ans: 225**
- (iii) Calculate the simple interest on Rs. 8000 for 15 months at 6 paise per rupee per month. **Ans: 7200**

2)

- (i) If certain principal amounts to Rs.1100 in 2 years at 5% simple interest rate. Then what is the principal ? **Ans:1000**
- (ii) If Rs. 12000 amounts to 15000 in 4 years at simple interest then find the rate of interest (R%) per annum . **Ans: 6.25%**
- (iii) In how many years Rs.1600 amounts to Rs.2200 at 12.5% simple interest rate. **Ans: 3 years**

MODEL:1

1) At what rate percent per annum will a sum of money double in 25 years.

- a) 6% b) 4% c) 15% d) 20%

2) A sum doubles itself in 16 years, then in how many years will it triples itself; rate of interest being simple.

- a) 24 years b) 32 years c) 15 years d) 45 years

3) A certain sum of money amounts to Rs. 2900 at rate of 4% per annum in 4 years. In how many years will it amount to Rs. 5000 at the same rate ?

- a) 25 years b) 12 years c) 28 years d) 30 years

4) How much time will it take for an amount of Rs. 450 to yield Rs. 81 as interest at 4.5% per annum of simple interest ?

- a) 3 years b) 2 years c) 4 years d) 6 years

MODEL:2

1) The simple interest on a sum of money will be Rs. 210 after 3 years. If in the next 3 years, principal become 4 times, then the total interest at the end of 6 years.

- a) 940 b) 1050 c) 1140 d) 1320

2) A sum of Rs. 800 amounts to Rs.920 in 3 years at simple interest. If the interest rate is increased by 3%, it would amount to how much ?

- a) 1020 b) 960 c) 1054 d) 992

3) A person makes a fixed deposit of Rs. 20000 in Bank of India for 3 years. If the rate of interest be 13% Simple interest per annum charged half yearly. What amount will he get after 42 months as interest ?

- a) 10200 b) 9100 c) 14200 d) 13800

MODEL:3

1) Find the total percentage of interest gained on principal. if the rate of interest is 36% per annum at simple interest, calculated on the principal for 2 years 7 months.

- a) 86 % b) 75% c) 82.54% d) 93%

2) A sum of Rs 1600 gives a simple interest of Rs 252 in the time period of 2 years and 3 months. What is the rate of interest per annum ?

- a) 5% b) 6% c) 7% d) 8%

3) The simple interest on a certain sum of money for $3\frac{1}{2}$ years at 14% per annum is Rs. 75 more than the simple interest on the same sum for $4\frac{1}{2}$ years at 10% per annum. Find the sum.

- a) 1750 b) 1875 c) 1926 d) 2100

4) The simple interest on a certain sum of money for $3\frac{1}{2}$ years at 10% per annum is ₹55 less than the simple interest on the same sum for $4\frac{1}{2}$ years at 9% per annum. Find the sum.

- a) 2000 b) 1000 c) 1250 d) 800

MISCELLANEOUS:

1) The difference between the Simple Interest received from two different sources on Rs. 1500 for 5 years is Rs. 22.50 the difference between their rates of interest is :

- a) 0.3% b) 0.5% c) 0.7 % d) 0.9%

2) What is the amount received on the sum 11₹ at the rate of 11% per annum in simple interest after 11 years ?

- a) 28.96 b) 33.25 c) 22.11 d) 24.31

3) Simple interest on a certain sum at a certain annual rate of interest is $\frac{16}{25}$ of the sum. If the number representing rate percent and time in years be equal, then the rate of interest is

- a) 8% b) 12% c) 6% d) 14%

4) Rakesh invests Rs. 12000 at 10% per annum simple interest. After 3 years, he withdraws the money at a lower interest rate, receiving Rs. 3320 less than if he had kept it for 5 years. What is the new interest rate offered by the bank ?

a) $72 / 5 \%$ b) $67 / 9 \%$ c) $33 \frac{1}{3} \%$ d) $25 / 9 \%$

5) The simple interest on Rs.7,300 from 11 May, 1987 to 10 September, 1987 (both days included) at 5% per annum is .

a) 146 b) 134 c) 123 d) 105

6) What equal instalment of annual payment will discharge a debt which is due as Rs. 848 at the end of 4 years at 4% per annum simple interest ?

a) 150 b) 200 c) 250 d) 320

7) What quarterly payment will discharge a debt of Rs. 2280 in 2 years at 16% per annum simple interest ?

a) 250 b) 350 c) 375 d) 280

8) A part of certain sum of money is invested at 8% per annum and the rest at 12% per annum. If the interest received in each case for the same period be equal, the ratio of the sum invested is :

a) $7 / 5$ b) $1 / 4$ c) $3 / 2$ d) $4 / 7$