Simple & Compound Interest

1. **Principal:**

The money borrowed or lent out for a certain period is called the **principal** or the **sum**.

1. **Interest:**

Extra money paid for using other's money is called **interest**.

1. **Simple Interest (S.I.):**

If the interest on a sum borrowed for certain period is reckoned uniformly, then it is called **simple interest**.

Let Principal = P, Rate = R% per annum (p.a.) and Time = T years. Then

|  |  |  |  |
| --- | --- | --- | --- |
| (i). Simple Interest = | http://www.indiabix.com/_files/images/aptitude/1-sym-oparen-h1.gif | P x T x R | http://www.indiabix.com/_files/images/aptitude/1-sym-cparen-h1.gif |
| 100 |

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| (ii). P = | http://www.indiabix.com/_files/images/aptitude/1-sym-oparen-h1.gif | 100 x S.I. | http://www.indiabix.com/_files/images/aptitude/1-sym-cparen-h1.gif | ; R = | http://www.indiabix.com/_files/images/aptitude/1-sym-oparen-h1.gif | 100 x S.I. | http://www.indiabix.com/_files/images/aptitude/1-sym-cparen-h1.gif | and T = | http://www.indiabix.com/_files/images/aptitude/1-sym-oparen-h1.gif | 100 x S.I. | http://www.indiabix.com/_files/images/aptitude/1-sym-cparen-h1.gif | . |
| R x T | P x T | P x R |
|  |  |  |  |  |  |  |  |  |  |  |  |  |
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**Simple Interest questions:**

1. Find SI on Rs 1600 for 3 years at 5% per annum.

2. On what sum of money will the simple interest for 3 years at 5%p.a is Rs 450 ?

3. In what time will the simple interest on Rs 1600 at 4% be Rs 256.

4. At what rate percent per annum will the SI on Rs 8000 for 2 years is 960?

5. Anand borrowed a sum of Rs 6000 at the rate of 6 percent per annum. Find the amount to be paid by Anand at the end of 6 years?

6. Ramesh borrowed a certain sum from a financing company at 10.5 percent per annum. At the end of 4 years, Ramesh returned the sum along with the interest. He paid Rs 5680 in all. Find the sum borrowed by Ramesh initially?

7. At what rate% per annum a sum of money become double in 5 years?

8. In how many years will a sum of money becomes triple at 10% per annum simple interest?

9. A sum of money becomes double itself in 10 years. In how many years will it become 4 times at the same rate?

10. A certain sum amounts Rs 10400 in 3 years and 12800 in 6 years. Find the sum?

11. A part of sum of Rs 8000 is invested at 4% and remaining at 6% per annum. The whole annual received was Rs 380. Find the money invested at 4%?

**Compound Interest**

1. **When interest is compound Annually:**

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| --- | --- | --- | --- | --- | --- |
| Amount = P | http://www.indiabix.com/_files/images/aptitude/1-sym-oparen-h1.gif | 1 + | R | http://www.indiabix.com/_files/images/aptitude/1-sym-cparen-h1.gif | *n* |
| 100 |

1. **When interest is compounded Half-yearly:**

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| --- | --- | --- | --- | --- | --- |
| Amount = P | http://www.indiabix.com/_files/images/aptitude/1-sym-obracket-h1.gif | 1 + | (R/2) | http://www.indiabix.com/_files/images/aptitude/1-sym-cbracket-h1.gif | *2n* |
| 100 |

1. **When interest is compounded Quarterly:**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Amount = P | http://www.indiabix.com/_files/images/aptitude/1-sym-obracket-h1.gif | 1 + | (R/4) | http://www.indiabix.com/_files/images/aptitude/1-sym-cbracket-h1.gif | *4n* |
| 100 |

**4. When interest is compounded Annually but time is in fraction, say 3http://www.indiabix.com/_files/images/aptitude/1-div-2by5.gif years.**

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Amount = P | http://www.indiabix.com/_files/images/aptitude/1-sym-oparen-h1.gif | 1 + | R | http://www.indiabix.com/_files/images/aptitude/1-sym-cparen-h1.gif | 3 | X | http://www.indiabix.com/_files/images/aptitude/1-sym-oparen-h3.gif | 1 + | http://www.indiabix.com/_files/images/aptitude/1-div-2by5.gifR | http://www.indiabix.com/_files/images/aptitude/1-sym-cparen-h3.gif |
| 100 | 100 |

**5. When Rates are different for different years**, say R1%, R2%, R3% for 1st, 2ndand 3rd year respectively.

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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Then, Amount = P | http://www.indiabix.com/_files/images/aptitude/1-sym-oparen-h1.gif | 1 + | R1 | http://www.indiabix.com/_files/images/aptitude/1-sym-cparen-h1.gif | http://www.indiabix.com/_files/images/aptitude/1-sym-oparen-h1.gif | 1 + | R2 | http://www.indiabix.com/_files/images/aptitude/1-sym-cparen-h1.gif | http://www.indiabix.com/_files/images/aptitude/1-sym-oparen-h1.gif | 1 + | R3 | http://www.indiabix.com/_files/images/aptitude/1-sym-cparen-h1.gif | . |
| 100 | 100 | 100 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |

**Compound Interest Questions**

12. Find the compound interest on Rs 5000 for 2 years at 10% per annum.

13. A sum of Rs 2500 is lent at compound interest at 4% per one year. Find the CI.

14. Find the amount on Rs 7500 at 10% pa interest compounded annually for 2 years, 6 months.

15. What sum of money will amounts to Rs 12100 in two years at 10% compound interest?

16. At what time will the compound interest on Rs 4000 at 10% to be Rs 840?

17. Find the compound interest on Rs 10000 at 10 pa for 1 year six months, the interest being compounded half yearly?

18. Find the compound interest on 3000 at 30% per annum for one year, the interest being compounded in 4 months period.

19. Find the compound interest on 10000 at 20 percent pa for 9 months, the interest being compounded quarterly?

20. The difference between simple interest and compound interest on a sum of money for 2 years at 15% is Rs 495. Find the sum?