

How to use this worksheet. Fifteen questions, about 20 minutes, with the answer key at the end. When only two amounts at different times are given, the growth between them already tells you the rate. Halve the rate and double the periods whenever compounding is more than annual.

Formula sheet

SI = $\frac{PRT}{100}$ | Amount (compound) = $P(1 + \frac{r}{100})^t$, CI = Amount – P

For 2 years, CI – SI = $P(\frac{r}{100})^2$ | SI and CI are equal for year one, CI overtakes from year two

Half-yearly compounding: halve the rate, double the number of periods

For a multi-year CI problem, the growth from one year to the next gives the rate directly, without needing the principal

Section A · Simple interest — Finding SI, rate, principal or time

Seven questions. Rearrange the SI formula for whichever quantity is missing.

- The simple interest on Rs. 8,000 at 6% per annum for 3 years is:
(1) Rs. 1,200 (2) Rs. 1,320 (3) Rs. 1,440 (4) Rs. 1,500
- A sum doubles itself in 8 years at simple interest. The rate per annum is:
(1) 10% (2) 12.5% (3) 15% (4) 20%
- A sum of Rs. 1,500 earns Rs. 480 as simple interest in 4 years. The rate of interest is:
(1) 6% (2) 7% (3) 8% (4) 9%
- A sum triples itself in 20 years at simple interest. The rate per annum is:
(1) 8% (2) 9% (3) 10% (4) 12%
- At what rate of simple interest will Rs. 2,000 amount to Rs. 2,500 in 5 years?
(1) 4% (2) 5% (3) 6% (4) 7%
- The simple interest on a sum for 2 years at 5% per annum is Rs. 200. The principal is:
(1) Rs. 1,500 (2) Rs. 1,800 (3) Rs. 2,000 (4) Rs. 2,200
- Simple interest for one year is always:
(1) Greater than compound interest for the same rate and principal (2) Equal to compound interest for the same rate and principal (3) Less than compound interest for the same rate and principal (4) Impossible to compare without more data

Working space — Questions 1 to 7

Write the formula before you substitute.

Section B · Compound interest — Annual and half-yearly compounding

Five questions. Compounding more often than once a year changes both the rate and the count of periods.

- The compound interest on Rs. 10,000 for 2 years at 10% per annum, compounded annually, is:
(1) Rs. 2,000 (2) Rs. 2,100 (3) Rs. 1,900 (4) Rs. 2,200
- The compound interest on Rs. 5,000 for 1 year at 10% per annum, compounded half-yearly, is:
(1) Rs. 500 (2) Rs. 512.50 (3) Rs. 525 (4) Rs. 550
- For the same principal, rate and time, compound interest compared to simple interest is always:
(1) Equal (2) Less, for any time beyond one year (3) Greater, for any time beyond one year (4) Impossible to compare

11. A sum becomes Rs. 4,840 in 2 years and Rs. 5,324 in 3 years at compound interest, compounded annually. The rate of interest is:

(1) 8% (2) 9% (3) 10% (4) 12%

12. A sum invested at compound interest becomes Rs. 2,420 in 2 years and Rs. 2,662 in 3 years, compounded annually. The rate of interest is:

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

Working space — Questions 8 to 12

Write the formula before you substitute.

Section C · Previous year questions and mixed practice — Straight from the AAI ATC papers

Three questions. Two are real previous year questions.

13. There is 30 percent increase in an amount in 3 years at x percent rate of simple interest. Find the compound interest on Rs. 30,000 after 4 years at the same rate. [PYQ 2021 · Shift 3]

(1) Rs. 9,930 (2) Rs. 13,293 (3) Rs. 11,980 (4) Rs. 13,923

14. The compound interest and the simple interest for two years on a certain sum at a certain rate are Rs. 1,230 and Rs. 1,200 respectively. Find the principal. [PYQ 2021 · Shift 2]

(1) Rs. 12,600 (2) Rs. 10,000 (3) Rs. 12,000 (4) Rs. 10,600

15. A sum of Rs. 4,000 is invested at 10% per annum for 2 years. The difference between compound interest (compounded annually) and simple interest is:

(1) Rs. 20 (2) Rs. 40 (3) Rs. 60 (4) Rs. 100

Working space — Questions 13 to 15

Write the formula before you substitute.

Answer key

Check only after you have attempted every question. Full worked solutions for each one are on the worksheet page at aviatelearnings.com.

1. (3)	4. (3)	7. (2)	10. (3)	13. (4)
2. (2)	5. (2)	8. (2)	11. (3)	14. (3)
3. (3)	6. (3)	9. (2)	12. (3)	15. (2)

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