

# GA General Aptitude



## Verbal Aptitude

*English*

Basic English grammar: tenses, articles, adjectives, prepositions, conjunctions, verb-noun agreement, and other parts of speech  
Basic vocabulary: words, idioms, and phrases in context  
Reading and comprehension  
Narrative sequencing

## Quantitative Aptitude

*Maths* →

Data interpretation: data graphs (bar graphs, pie charts, and other graphs representing data), 2- and 3-dimensional plots, maps, and tables  
Numerical computation and estimation: ratios, percentages, powers, exponents and logarithms, permutations and combinations, and series  
Mensuration and geometry  
Elementary statistics and probability

## Analytical Aptitude

*Reasoning*

Logic: deduction and induction, Analogy, Numerical relations and reasoning

## Spatial Aptitude

Transformation of shapes: translation, rotation, scaling, mirroring, assembling, and grouping  
Paper folding, cutting, and patterns in 2 and 3 dimensions



$SI \rightarrow PRT$   
 $\frac{100}{100}$   
 P → Principle Money  
 R → Rate  
 T → Time years  
 P →  $P \times R \times T$

Simple Interest

for 2 years

at 10%  $\rightarrow 10,000 \times 10 \times 2 = 2000$

More  $\rightarrow 10,000 + 2000 = 12,000$

$SI = 10,000 \times 10 \times 2$

$SI = 2000$

Eg. A man borrowed ₹1200 at the interest rate of 5% for the first year, 7% for second and 8% for third year. What amount he will have to pay after three years?

PRT

SI

$$SI = \frac{1200 \times 5 \times 1}{100} + \frac{1200 \times 7 \times 1}{100} + \frac{1200 \times 8 \times 1}{100}$$
$$= 1200 + 20 = 200$$

Am 1440

$$SI = \frac{1200 \times 5 \times 1}{100} + \frac{1200 \times 7 \times 1}{100} + \frac{1200 \times 8 \times 1}{100}$$
$$= \frac{1200}{100} (5 + 7 + 8) = 12 [20] = 240$$
$$A = 1200 + 240 = 1440$$

Eg. A man borrowed ₹1200 at the interest rate of 5% for the first two years and 8% for next three years. What amount he will have to pay after five years ?

SI  $\rightarrow$  1200 

$$1200 \times [5\% \times 2 + 8\% \times 3]$$
$$1200 \times [10\% + 24\%] = 408 \text{ ₹}$$
$$1200 + 348 = 1548 \text{ ₹}$$

Ans = ₹ 1548

Eg. A Sum triples itself in three years. Find the rate of interest?

$$A = 3P$$

$$\boxed{P}$$

$$P + R \times 3$$

$$SI = A - P$$

$$2P = 3P - P$$

$$2P = \frac{P \times R \times 3}{100}$$

$$R = \frac{200}{3} \text{ % Ans}$$

Eg. A Sum of money becomes ₹8000 in three years and ₹8500 in four years at simple interest. Find the Sum?

$$SI = \frac{PRT}{T \cancel{\omega}} = \frac{6500 \times R \times 3}{T \cancel{\omega}} = \underline{\cancel{50}}$$

$$R = \frac{100}{T \cancel{\omega}} \text{ Ans}$$

$$\begin{aligned} 8000 &= P + 3SI \\ 8500 &= P + 4SI \end{aligned}$$

$$1500 = SI$$

$$P = 6500 \text{ Ans}$$

Eg. A man borrowed equal money from two different lenders at 9% & 12% for 3 & 5 years respectively. The difference in interest is ₹660 find the sum that was lend by each lender.

SI

$$\frac{P \times 9 \times 3}{100}$$

SI

$$\frac{P \times 12 \times 5}{100} = 660$$

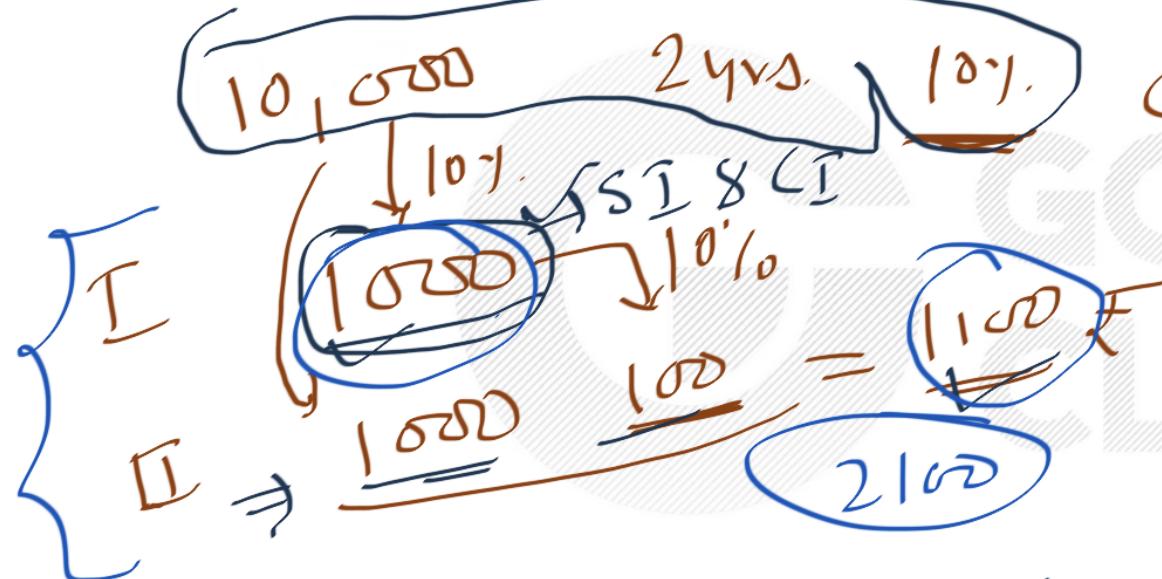
$$\frac{27}{100} P - \frac{60}{100} P = 660$$

$$\frac{33}{100} P = 660 \Rightarrow$$

$$\cancel{P = ₹2000}$$

# Compound interest

int on int



Compounded annually.

$$A = P \left(1 + \frac{R}{100}\right)^T$$

$$\begin{aligned} A &= 10,000 \left(1 + \frac{10}{100}\right)^2 \\ &= 10,000 \times \frac{11}{10} \times \frac{11}{10} = 12100 \end{aligned}$$

$$\begin{aligned} A &= 12100 \\ P &= 10,000 \\ CI &= 2100 \end{aligned}$$

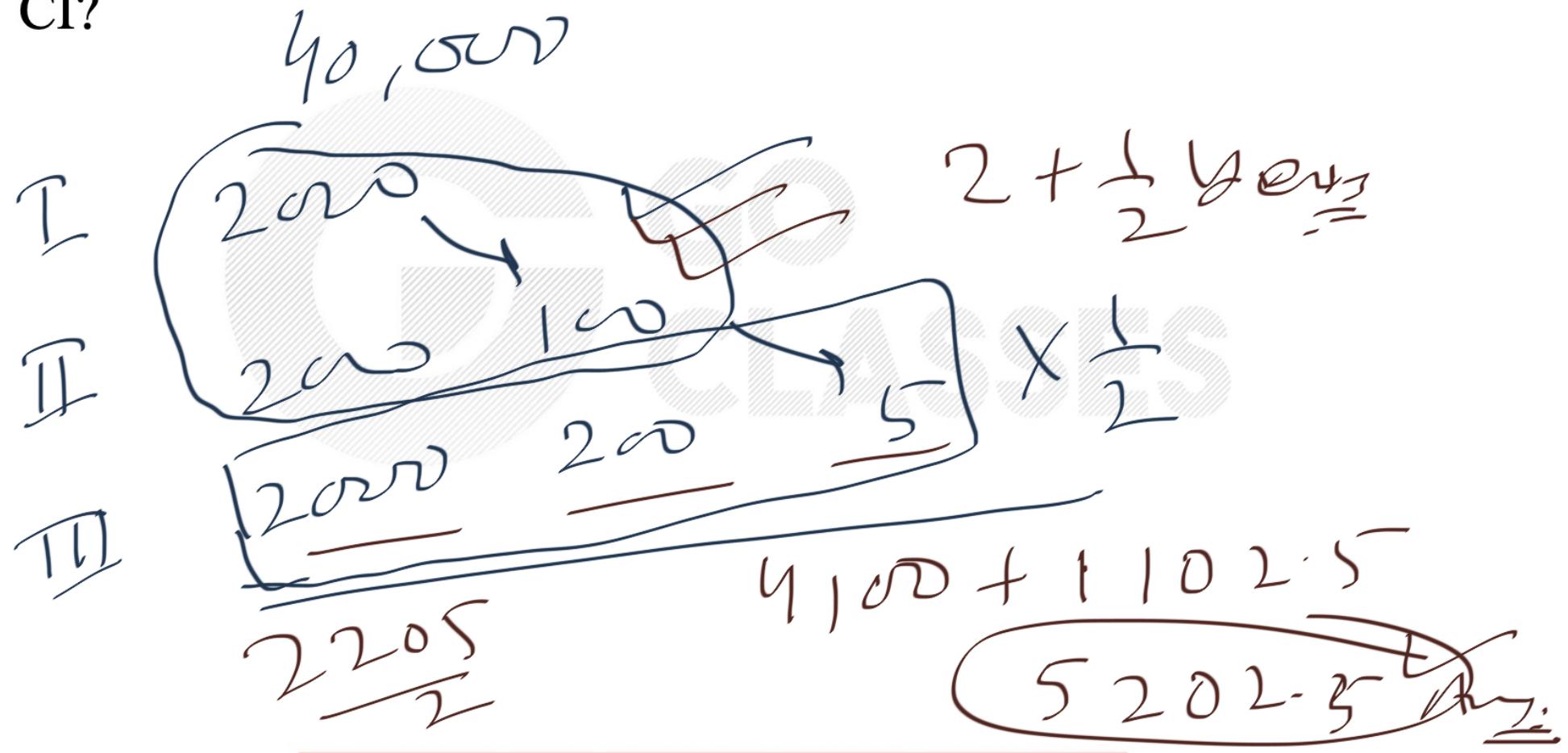


Eg. A Sum of money ₹40000 invested for three years at 5% interest rate, where the interest is compounded annually. Then find CI?

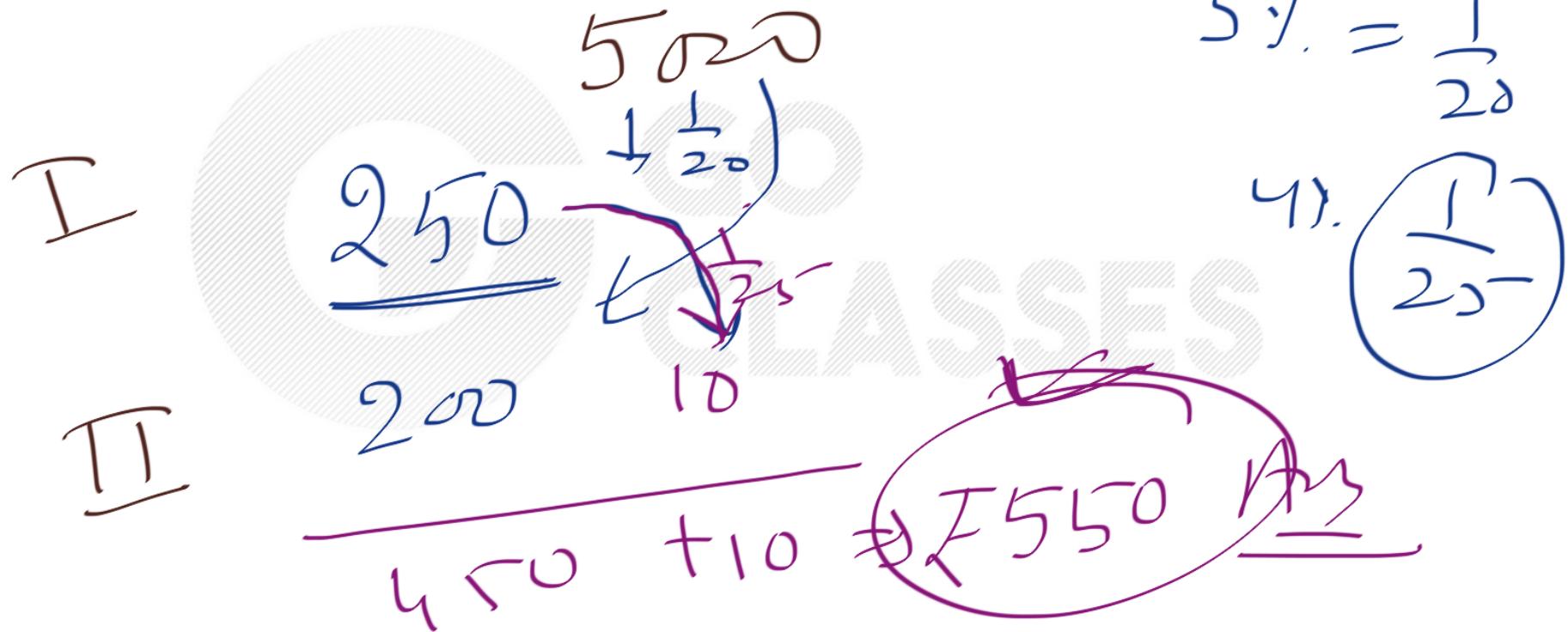
$$A = P \left(1 + \frac{R}{100}\right)^T$$

$$\begin{aligned} A &= 40,000 \left(1 + \frac{5}{100}\right)^3 \\ &= 40,000 \left(\frac{21}{20}\right)^3 \\ &= 40,000 \times \frac{21}{20} \times \frac{21}{20} \times \frac{21}{20} \end{aligned}$$

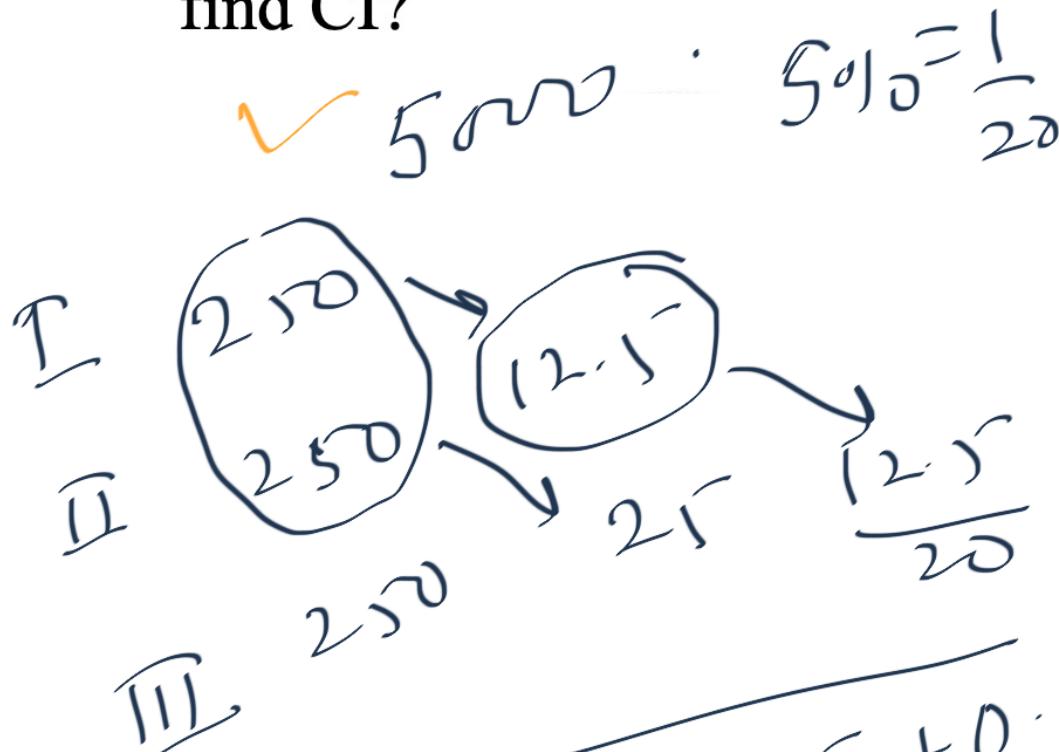
Eg. A Sum of money ₹40000 invested for 2 and half years at 5% interest rate, where the interest is compounded annually. Then find CI?



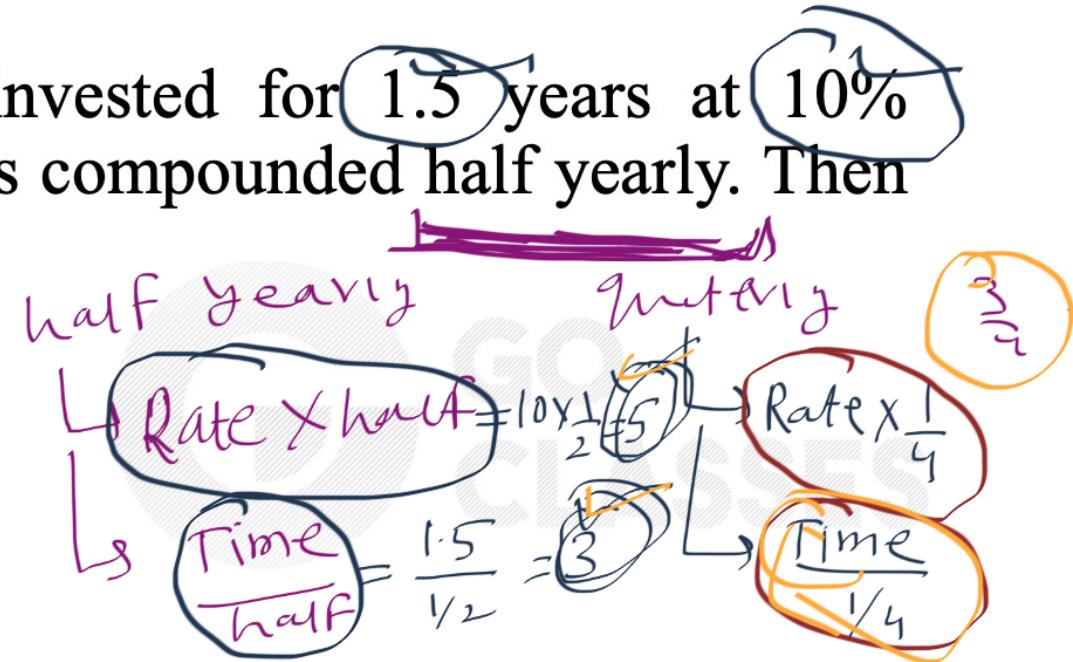
Eg. A man borrowed ₹5000 at the interest rate of 5% for the first year, 4% for second year. What amount he would have to pay after two years if the interest compounded annually?



Eg. A sum of money ₹5000 invested for 1.5 years at 10% interest rate, where the interest is compounded half yearly. Then find CI?



$$\frac{710}{710} + 37.5 + 0.625 = \underline{\underline{Ans}}$$



Eg. In how many years a Sum doubles itself if it grows at 10% rate which is compounded annually?

$$A = P \left(1 + \frac{R}{100}\right)^T$$

$$2P = P \left(1 + \frac{R}{100}\right)^T$$

$$2 = \left(\frac{11}{10}\right)^T$$

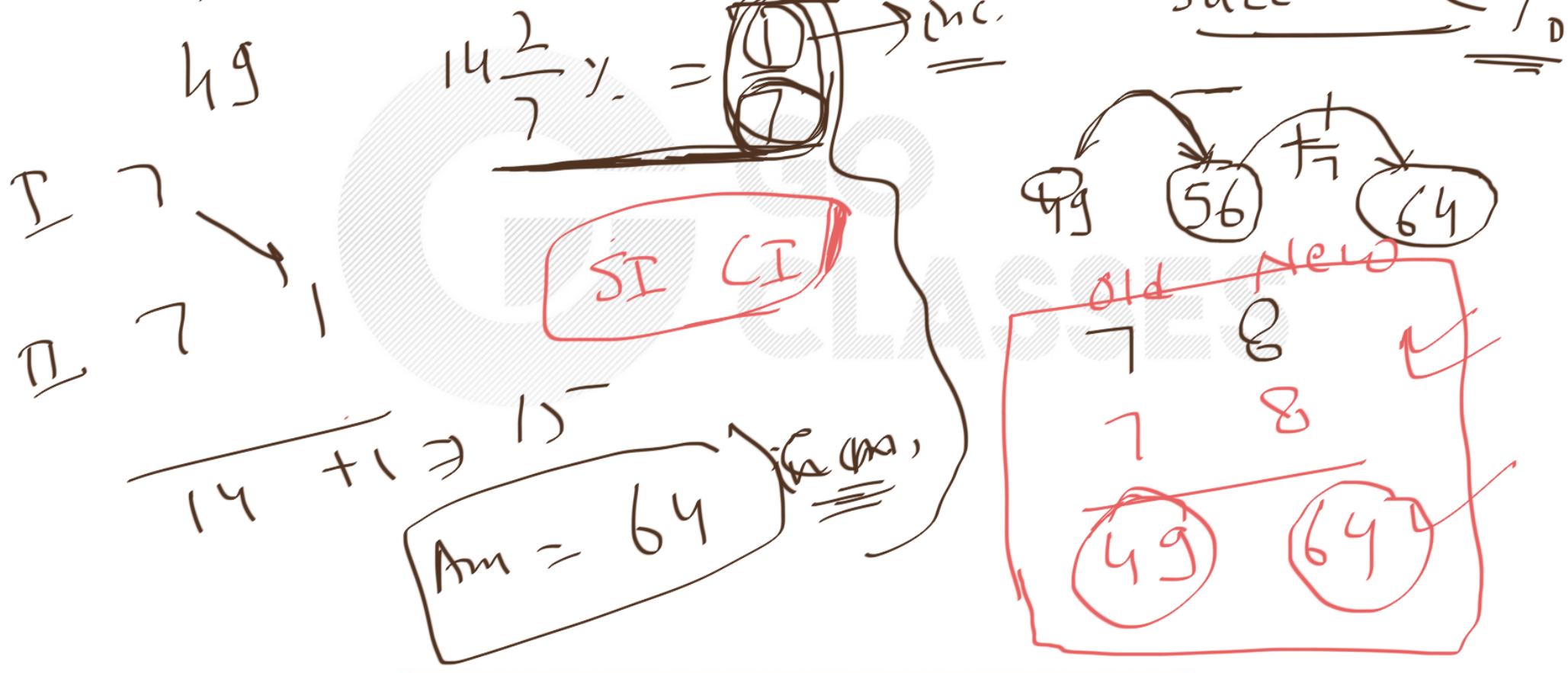
$$\log 2 = T \log \frac{11}{10}$$

$$T = \frac{\log 2}{\log 1.1}$$

exact Ay



Eg. Aman's height increases by  $14\frac{2}{7}\%$  every year. At present his height is 49cm. Find his height after 2 years.



**Q.1** The current population of a city is 11, 02, 500 . If it has been increasing at the rate of 5% per annum, what was its population 2 years ago?

- A. 9,92,500
- B. 9,95,006
- C. 10,00,000
- D. 12,51,506

**Q.2** A person invest Rs.1000 at 10% annual compound interest for 2 years. At the end of two years, the whole amount is invested at an annual simple interest of 12% for 5 years. The total value of the investment finally is :

- A. 1776
- B. 1760
- C. 1920
- D. 1936

**Q.3** The population of a new city is 5 million and is growing at 20% annually. How many years would it take to double at this growth rate?

- A. 3–4years
- B. 4–5years
- C. 5–6years
- D. 6–7years

**Q.4** Leila aspires to buy a car worth Rs. 10, 00, 000 after 5 years. What is the minimum amount in Rupees that she should deposit now in a bank which offers 10% annual rate of interest, if the interest was compounded annually?

- A. 5,00,000
- B. 6,21,000
- C. 6,66,667
- D. 7,50,000



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- A. 9,92,500    B. 9,95,006    C. 10,00,000    D. 12,51,506

$$\begin{array}{r} \text{1102500} \\ \times 44 \\ \hline \end{array}$$

20 21  
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 40 44  
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$$A = 1210 + 1726$$

1936     $100^0 + 21^0$   
 $(1210) \times 12 \times 5$   
 $\frac{100}{100} = 1726$

I  $\frac{100}{100} \rightarrow 10$   
 $10 \times 10 \rightarrow 100$   
 $\frac{100}{20+10} \rightarrow 210$

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Rule of 72  
 $\frac{72}{20} = 3.6 \text{ yrs}$

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