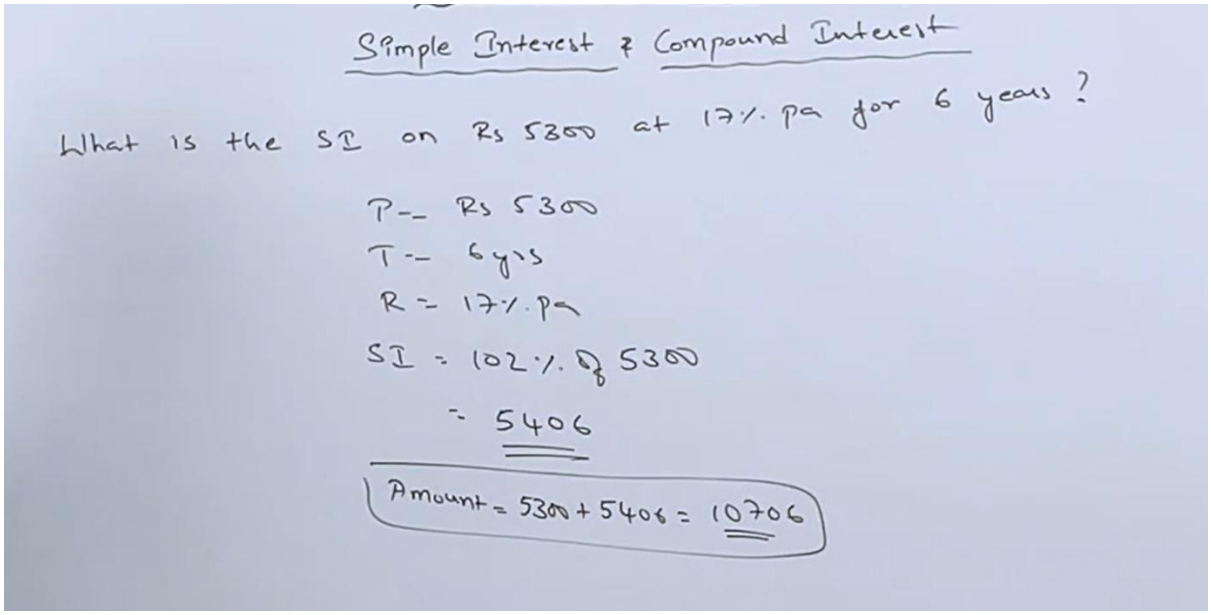
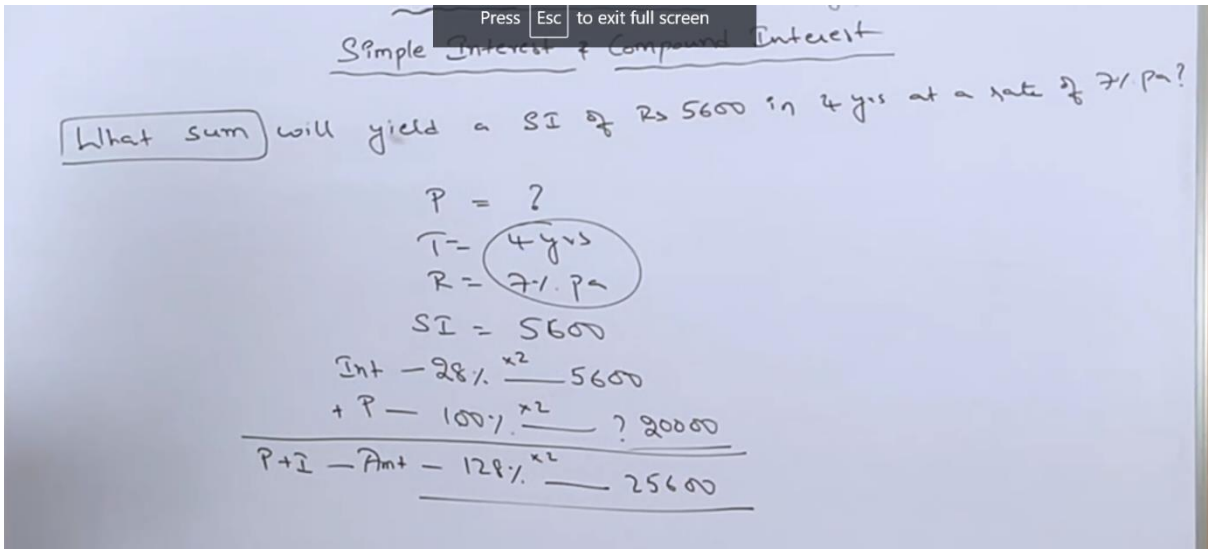
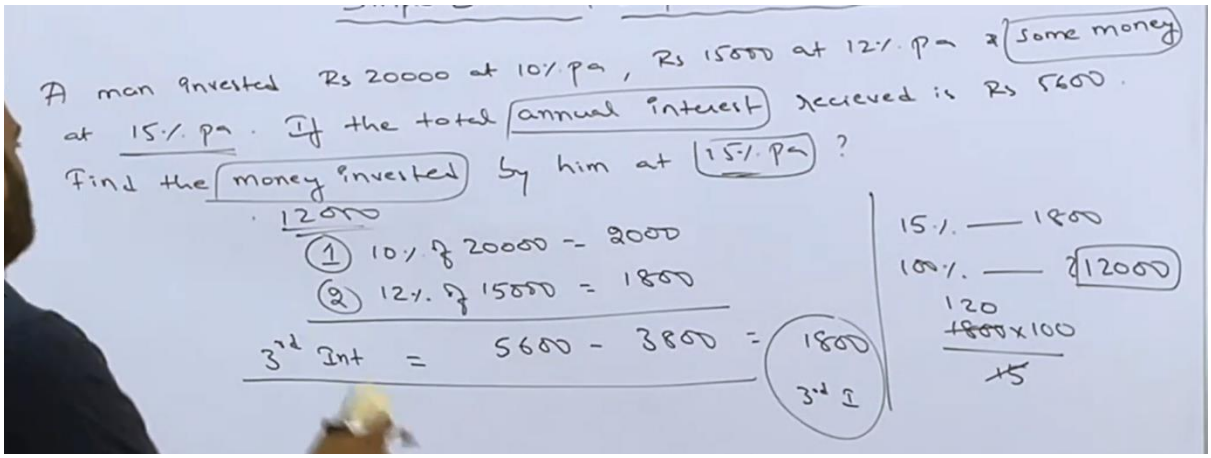
SIMPLE INTREST







Simple Interest & Compound

On a certain sum of money, the rate of SI is 5% pa for first 3 yrs, 6% pa for next 4 yrs & 8% pa for the next 5 yrs beyond first 7 yrs. If the interest obtained for 12 yrs is Rs 7900. Find the sum?

① $5 \times 3 = 15\%$.
② $6 \times 4 = 24\%$.
③ $8 \times 5 = 40\%$.

Total Interest = 79%.

×1
79% — 7900
×1
100% — ? 10000

Simple Interest & Compound

A sum was put at SI at a certain rate for 2 years. Had it been put at 3% higher rate, it would have fetched Rs 72 more. Find the sum.

→ ×12
6% — 72
100% — ? 1200
→ 12

Simple Interest & Compound Interest

On a certain sum of money, the SI in 4 yrs at 10% pa is Rs 480. What would be the additional SI, if rate of interest will be 12% pa in 5 yrs — 60%.

Diff b/w (60 − 40)

40% → 480
20% → ? 240

1/2 | 1/2

Simple Interest & Compound Interest

The SI on Rs 6400 at 12.5% p.a. is Rs 2000. Find Time period.

P — 6400
T — ?
R — 12.5% p.a.
SI — 2000

6400 → 100%
2000 → ?

$Int = \frac{100 \times 2000}{6400} = \frac{125}{4}\%$

$T = \frac{Int}{R} = \frac{125}{4} = 2.5$ yrs

Simple Interest & Compound Interest

The SI on Rs 6000 (Sum) in 3 years & 4 months is Rs 3000. Find the ROI per annum.

6000 — 100%
3000 — ?
50%

Int — 50%
T — 10/3 Y

$R = \frac{50}{\frac{10}{3}} = \frac{50 \times 3}{10} = 15\%$ p.a.

P — 6000
$T = 3 \text{ yr } 4 \text{ m} \Rightarrow 3\frac{4}{12} = \frac{40}{12} \text{ yrs} = \frac{10}{3} \text{ yrs}$
((12×3)+4)
(3×3)+1

R = ? 15% p.a.
SI = 3000

Arjun took a loan of Rs 4000 at SI. After 4 years, he cleared the loan by paying Rs 6880. Find the ROI.

P → Rs 4000
T → 4 yrs
R → ?
A → Rs 6880
SI → A − P
= 6880 − 4000
SI = 2880

4000 — 100%
2880 — ? 72%.

$\frac{100 \times 2880}{4000}$

$R = \frac{72}{4} = 18\%$ pa

Simple Interest & Comp...

A lent Rs 25000 to B for 4 yrs & Rs 4000 to C for 3 years & got Rs 27500 SI from both. If ROI is same, find ROI.

B → 25000 × 4 ⇒ Rs 100000
C → 40000 × 3 ⇒ Rs 120000
P → Rs 2,20,000
SI → Rs 27500

Converted everything into one yrs

220000 — 100%
27500 → ?

$\frac{100 \times 27500}{220000}$

2

12.5% pa

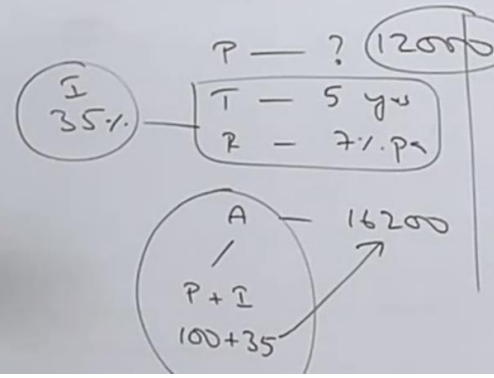
Ram took a loan of Rs 12600 at 12% pa. Find the amount to be paid by him after 8 years @ SI.

P → Rs 12600
T → 8 yrs
R → 12% pa
SI → 96% of 12600 = 12096

A = P + I = 12600 + 12096
= 24696

Simple Interest & Compound

What sum will amount to Rs 16200 in 5 yrs at 7% pa SI ?



135% — 16200

100% — ? 12000

~~18000~~ 20
~~16200 × 100~~
~~135~~
~~27~~
~~5~~

** Certain sum doubles itself in 20 yrs at a rate of SI.
Find the ROI.

Sol :-

P → A
100% → 200%
(I)
100%
20 yrs = 5% pa

** Certain sum triples itself in 20 yrs at a rate of SI.
Find the ROI.

Sol :-

100 — 300
200
20 = 10% pa

** Certain sum 4 times itself in 20 yrs at a rate of SI.
Find the ROI.

Sol :-

100 — 400
300
20 = 15% pa

Simple Interest & Compound Interest

** Certain sum ~~doubles~~ 8 times itself in how many years at a rate of ~~5% pa~~ 28%.
Find the ROI.

Sol :-

100 —— 200

$\frac{100\%}{5\%}$ = 20 yrs

100 —— 800

$\frac{700}{28}$ = 25 yrs

$\frac{Int}{R} \rightarrow$ Time

$\frac{Int}{Time} = R$

In how many years will the sum of money becomes two & a half times at 12.5% pa SI.

100 —— 250

$\frac{150\%}{12.5\%} = ? \Rightarrow \frac{150 \times 100}{125}$ = 12 yrs

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Certain sum becomes 4 times itself in 12 years. It becomes 8 times itself in how many years.

4 − 1, 8 − 1

3 —— 12 yrs (×4)

7 —— ? (×4)

28 yrs

100 —— 400

300% ⟶ 12 yrs

100 —— 800

700% ⟶ ?

300% —— 12 yrs

700% —— ? 28 yrs

$\frac{12 \times 700}{300}$

Simple Interest & Compound Interest

Sum becomes 5.5 (5.5-1) times → 18 yrs

it becomes 7.2 (7.2-1) times → ?

increases by 4.5 times → 18 yrs

increases by 6.2 times → ? 24.8 yrs

$$\frac{18 \times 6.2}{4.5} \Rightarrow \frac{\overset{2}{18} \times 6.2}{\cancel{4.5}\ 5} = \frac{124}{5} = 24.8 \text{ yrs}$$

Simple Interest & Compound Interest

A sum of money becomes $1\frac{3}{4}$ times (1.75 times) in 5 years @ SI.

In how many years, it becomes $5\frac{1}{2}$ times (5.5 times).

0.75 → 5 yrs

4.5 → ?

100 — $\frac{7}{\cancel{4}} \times \frac{\overset{25}{\cancel{100}}}{}$

100 — 175

75 — 5 yrs

$$\frac{5 \times 4.5}{0.75} \times \frac{100}{100} = \frac{\overset{30}{\cancel{8}} \times \cancel{450}}{\cancel{75}\ \cancel{15}} = 30 \text{ yrs}$$

100 — 550

450 — ?

$$\frac{\overset{30}{\cancel{8}} \times \cancel{450}}{\cancel{75}\ \cancel{15}} = 30 \text{ yrs}$$

Simple Interest & Compound Interest

The SI on a sum of money is $\frac{81}{25}$ of the Principal. If the no. of years is equal to RoI p.a. Find the Time period.

(T = R) = x

R of T

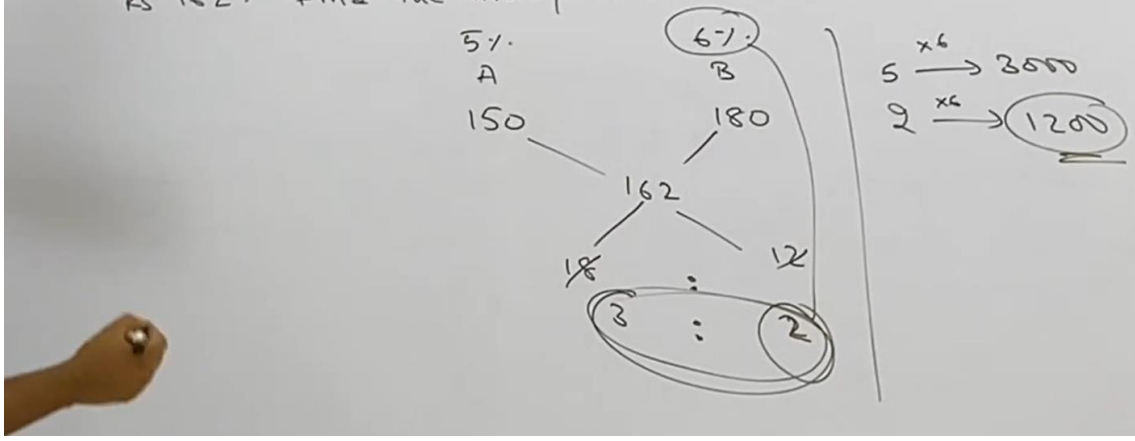
$$\sqrt{\frac{81}{25}} = \frac{90}{\cancel{8}} = 18 \text{ yrs}$$

T

18% p.a.

Simple Interest & Compound Interest

A part of the sum of Rs 3000 is invested at 5% pa. & the rest at 6% pa. The whole Annual Interest recieved is Rs 162. Find the money invested at 6% pa.



In what time will the SI on Rs 6000 at 4.5% pa equals to the SI on Rs 4500 at 5% pa for 6 yrs.

$$\frac{P_1T_1R_1}{100} = \frac{P_2T_2R_2}{100}$$

$$\frac{6}{6000} \times 4.5 \times T_1 = \frac{4500}{4500} \times 6 \times 5$$

$$T = 5 \text{ yrs}$$

The SI recieved in 9 yrs on a Principal of Rs 24250 is 162% of the Principal. What is ROI pa.

$$\frac{18}{\cancel{162}\%} = 18\% \text{ pa}$$