

Target RBI Grade B 2023

Top 150 Questions

Quant ✓

Lecture 4 – Profit & Loss +

Interest



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Profit & Loss

C.P. → Cost Price
↳
Purchase
Manufacture

S.P. → Selling Price
↳
Sale

$SP > CP$, Profit
 $SP - CP = \text{Profit}$
 $SP = CP + \text{Profit}$
 $CP = SP - \text{Profit}$

$CP > SP$, Loss

$$CP - SP = \text{Loss}$$

$$CP = SP + \text{Loss}$$

$$SP = CP - \text{Loss}$$



Profit / Loss

↓
Cost Price ✓

$$\frac{PIL}{CP} \times 100$$



$$1 = 100\%$$

$$\frac{1}{2} = 50\%$$

$$\frac{1}{3} = 33\frac{1}{3}\% = 33.33\%$$

$$\frac{1}{4} = 25\%$$

$$\frac{1}{5} = 20\%$$

$$\frac{1}{6} = 16\frac{2}{3}\% = 16.66\%$$

Fractions

$$\frac{1}{7} = 14\frac{2}{7}\% = 14.28\%$$

$$\frac{1}{8} = 12\frac{1}{2}\% = 12.5\%$$

$$\frac{1}{9} = 11\frac{1}{9}\% = 11.11\%$$

$$\frac{1}{10} = 10\%$$

$$\frac{1}{11} = 9\frac{1}{11}\% = 9.09\%$$

$$\frac{1}{12} = 8\frac{1}{3}\% = 8.33\%$$

$$\frac{1}{13} = 7\frac{6}{13}\% = 7.69\%$$

$$\frac{1}{14} = 7\frac{1}{7}\% = 7.14\%$$

$$\frac{1}{15} = 6\frac{2}{3}\% = 6.66\%$$

$$\frac{1}{16} = 6\frac{1}{4}\% = 6.25\%$$

$$\frac{1}{17} = 5\frac{15}{17}\% = 5.89\%$$

$$\frac{1}{18} = 5\frac{5}{9}\% = 5.55\%$$

$$\frac{1}{19} = 5\frac{5}{19}\% = 5.26\%$$

$$\frac{1}{20} = 5\%$$

$$\frac{1}{24} = 4\frac{1}{6}\% = 4.16\%$$

$$\frac{1}{25} = 4\%$$

$$\frac{1}{30} = 3\frac{1}{3}\% = 3.33\%$$

$$\frac{1}{32} = 3\frac{1}{8}\% = 3.125\%$$

$$\frac{1}{40} = 2\frac{1}{2}\% = 2.5\%$$

$$\frac{1}{50} = 2\%$$



Q1. A man buys a toy for Rs. 25 and sells it for Rs. 30. Find his gain percent. ✓✓

- ✓ 1) 20%
- 2) 25%
- 3) 10%
- 4) 30%

$$C.P. = 25 \quad S.P. = 30$$

$$S.P. > C.P.$$

$$\frac{PIL}{C.P.}$$

$$S.P. - C.P. = \text{Profit}$$

$$P = 30 - 25 = 5$$

$$\text{Profit \%} = \frac{5}{25} \times 100 = \underline{\underline{20\%}}$$



Q2. A man buys an article for Rs. 700/- and sells it at gain of 30%. Find the selling price of the article?

- 1) Rs. 800
- ✓ 2) Rs. 910
- 3) Rs. 590
- 4) Rs. 600

Percentage Method

$$CP = 700$$

$$\text{Gain} = 30\% \checkmark$$

$$SP = ?$$

$$CP = 100\% \checkmark$$

$$SP = 100\% + 30\% = 130\%$$

$$100\% = 700$$

$$1\% = 7$$

$$SP = 130 \times 7 = 910$$

Ratio Method

$$CP = 700$$

$$\text{Gain} = 30\% = \frac{30}{100} = \frac{3}{10} \frac{P}{CP}$$

$$CP : P : SP$$

$$10 : 3 : 13$$

$$\downarrow 1 = 70$$
$$700$$

$$\times 70$$
$$\hline 910$$

%, Ratio



Q3. If man were to sell his chair for 720, he would loss 25%. To gain 25% he should sell it for:

- 1) 1200
- 2) 1000
- 3) 960
- 4) 900

$SP = 720$
 $Loss = 25\%$
 $CP = 100\%$
 $SP = 125\%$
 $CP = 100\%$
 $SP = 75\%$

$75\% = 720$
 $1\% = \frac{720}{75}$
 $125\% = \frac{720}{75} \times 125 = 1200$

$SP = 720$
 $Loss = 25\%$
 $= \frac{1-L}{4} - CP$
 $Profit = 25\% = \frac{1}{4}$

CP	P	SP
(4)	1	5
		$\times 240$
		<u>1200</u>

CP	L	SP
(4)	1	3
		$\downarrow 1 = 240$
		720

Q4. A man sells his typewriter at 5% loss. If he sells it for Rs. 80 more, he gains 5%. The cost price of the typewriter is:

- 1) Rs. 1600
- 2) Rs. 1200
- 3) Rs. 1000
- 4) Rs. 800

CP = 100%
 =
 Loss = 5%
 SP = 95%

+80
 Profit = 5%
 SP = 105%

Tricks

P	L	+
L	P	+
L	L	-
P	P	-

$$95\% + 80 = 105\%$$

$$105\% - 95\% = 80$$

$$10\% = 80$$

$$100\% = 800$$

$$5\% + 5\% = 80$$

$$10\% = 80$$

$$100\% = \underline{\underline{800}}$$



Q5. The profit earned after selling an article for Rs. 625 is the same as loss incurred after selling the article for Rs. 435. The cost price of the article is :

- 1) Rs. 520
- 2) Rs. 530
- 3) Rs. 540
- 4) Rs. 550

$$625 = SP = CP + \text{Profit}$$

$$435 = SP = CP - \text{Loss}$$

$$CP + \text{Profit} + CP - \text{Loss} = 625 + 435$$

$$2 CP = 1060$$

$$CP = \frac{1060}{2} = \underline{\underline{530}}$$



MRP | MPI | Sale Price

$$\frac{\text{Profit} / \text{C.P.}}{\text{C.P.}} = \frac{1 - \text{Profit}}{10 - \text{CP}}$$

$$\text{Profit} = 10\% = \frac{1 - \text{Profit}}{10 - \text{CP}}$$

$$\text{CP} + \text{Profit} = \text{S.P.}$$

$$\frac{\text{Discount}}{\text{MRP}}$$

$$\text{Discount} = 10\% = \frac{1 - \text{Discount}}{10 - \text{MRP}}$$

$$\text{MRP} - \text{Discount} = \text{S.P.}$$

$$\text{MRP} = \text{SP} + \text{Discount}$$

$$\text{Discount} = \text{MRP} - \text{SP}$$

$$\text{MRP} = 500 \checkmark$$

$$\text{Discount} = 20\%$$

$$\frac{20}{100} \times 500 = 100 \checkmark$$

$$\text{S.P.} = 500 - 100$$

$$= 400$$



Q6. A shopkeeper claims to sell his articles at a discount of 10% , but marks his articles by increasing the cost of each by 20%. His gain percent is :

- 1) 6%
- 2) 8%
- 3) 10%
- 4) 12%

$$CP = 100$$

$$MRP = 120$$

$$Discount = 10\% = \frac{10}{100} \times 120 = 12$$

$$S.P. = 120 - 12 = 108$$

$$\begin{aligned} Profit &= SP - CP \\ &= 108 - 100 \\ &= 8 \end{aligned}$$



Q7. A dealer offers a discount of 10% on the market price of an article and still makes a profit of 8%. What percent more is the marked price from cost price?

- ✓ 1) 20%
- 2) 30%
- 3) 18%
- 4) 25%

$$CP = x = 100x$$

$$\text{Profit} = 8\% = 8x$$

$$SP = 108x$$

$$MRP = y = 100y$$

$$\text{Discount} = 10\% = 10y$$

$$SP = 90y$$

$$108x = 90y$$

$$\frac{x}{y} = \frac{90}{108} \quad \begin{array}{l} \text{--- CP} \\ \text{--- MRP} \end{array}$$

$$C.P. = MRP$$

$$100 - \text{Discount} = 100 + \text{Profit}$$

$$100 - 10 = 100 + 8$$

$$90 = 108$$

$$5 = 6$$

$$\frac{1}{5} \times 100 = 20\%$$



Q8. A dealer offers a discount of 10% on the marked price of an article and still makes a profit of 20%. If its marked price is Rs. 800, and then the cost price is ?

- 1) Rs.600
- 2) Rs.700
- 3) Rs.800
- 4) Rs.900

$$\begin{aligned} &? \qquad \qquad \qquad 800 \\ &CP = MRP \\ &100 - D = 100 + P \\ &100 - 10 = 100 + 20 \\ &90 = 120 \\ &3 = 4 \\ &\frac{\times 200}{600} \qquad \frac{\downarrow \times 200}{800} \end{aligned}$$



Q9. A company offers three types of successive discounts. 1st 25% and 15% ; 2nd : 30% and 10% ; 3rd: 35% and 5% .Which offers is better for a customer ?

- 1) 1st
- 2) 2nd
- 3) 3rd
- 4) All are equal

$\begin{array}{c} 40 \\ \text{---} \\ \textcircled{1} \quad 25\% + 15\% \\ \text{---} \\ 40 \end{array}$	$\begin{array}{c} \text{MRP} \\ 100 \\ \text{---} \\ 75 \\ \text{---} \\ 11.25 \\ \text{---} \\ \text{SP} \\ = 63.75 \end{array}$
$\begin{array}{c} 40 \\ \text{---} \\ \textcircled{2} \quad 30\% + 10\% \\ \text{---} \\ 40 \end{array}$	$\begin{array}{c} 100 \\ \text{---} \\ 70 \\ \text{---} \\ 7 \\ \text{---} \\ = 63 \end{array}$
$\begin{array}{c} 40 \\ \text{---} \\ \textcircled{3} \quad 35\% + 5\% \\ \text{---} \\ 40 \end{array}$	$\begin{array}{c} 100 \\ \text{---} \\ 65 \\ \text{---} \\ 3.25 \\ \text{---} \\ = 61.75 \end{array}$

Sum Same
Option - Highest Value

Q10

Quantity I: The market price of the watch is Rs.720. A man brought the same for Rs.550.80 after getting two successive discounts, the first being 10%, the second discount is? 15%

Quantity II: The listed price of a shirt is Rs.270 and it is available at 237.60. The rate of discount is? 12%

- A. Quantity I > Quantity II
- B. Quantity I ≥ Quantity II
- C. Quantity II > Quantity I
- D. Quantity II ≥ Quantity I
- E. Quantity I = Quantity II or Relation cannot be established.

① MP = 720
 $\downarrow 10\% = 72$
 $720 - 72 = 648$
 $\downarrow D = 97.2$
 SP = 550.80 ✓

②
 $D_{\text{Discount}} = 270 - 237.6 = 32.4$
 $\frac{32.4}{270} \times \frac{100}{100} = 12\%$

$D_{\text{Discount}} = 648 - 550.8 = 97.2$

$D\% = \frac{97.2}{648} \times \frac{100}{100} = 15\%$

Q11. What is the selling price of the article?

Statement I: The marked price of the article is 20% more than the cost price of the article and the shopkeeper offers the discount of 15%.

Statement II: Ratio of the cost to marked price of the article is 5:6 and the shopkeeper gets the profit of Rs.80.

- A. The data in statement I alone is sufficient to answer the question, while the data in statement II alone is not sufficient to answer the question
- B. The data in statement II alone is sufficient to answer the question, while the data in statement I alone is not sufficient to answer the question
- C. The data either in statement I alone or in statement II alone is sufficient to answer the question
- D. The data given in both statements I and II together are not sufficient to answer the question
- E. The data given in both statements I and II together are necessary to answer the question.

① X

CP	MRP	
100	120	
Discount = 15%		18
		SP = 102

① + ②

2 → 80

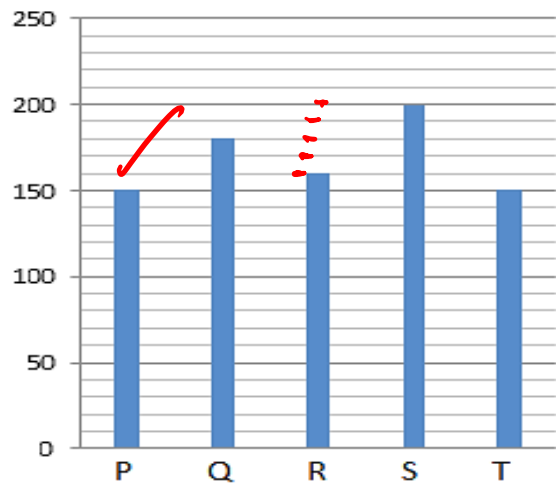
② X

CP	MRP
5	6
Profit = 80 Rs	

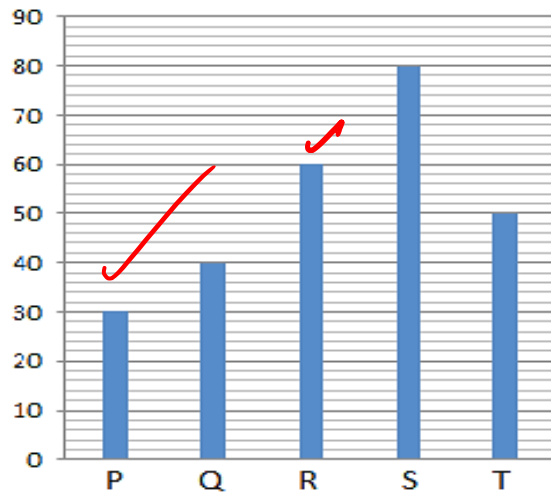


The first bar graph shows the marked up price of articles with respect to their cost price and the second bar graph shows the discount % given in respective articles.

Marked up % with respect to cost price of article



Discount % on articles



Q12. Cost price of **P** is 10% more than the cost price of R. If selling price of R is Rs 320, find the selling price of **P**.

- A) Rs 548.5
- B) Rs 577.5
- C) Rs 532.5
- D) Rs 553.5
- E) Cannot be determined

Handwritten solution for R:

$$R \quad SP = 320$$

CP	MRP	D
100	160	60%
		96

$SP = 160 - 96 = 64$
 $64 = 320$
 $1 = 5$

Handwritten solution for P:

$$P \quad CP = 500 + 50 = 550$$

Handwritten solution for P (continued):

CP	MRP	D	SP
100	150	30%	150
		45	45

$SP = 150 - 45 = 105$
 $105 \times \frac{11}{2} = \frac{1155}{2} = 577.5$



Q13. Cost price of B is Rs 180 more than the Cost price of A. A is sold at profit of 20% and B is sold at loss of 40%. Ratio of selling price of A and B is 5:4. What is the cost price of A?

- A. Rs. 400
- B. Rs. 300
- C. Rs. 360
- D. Rs. 350
- E. Rs. 250

$$B - A = 180$$

$$\frac{120\% \text{ of } A}{60\% \text{ of } B} = \frac{5}{4}$$

$$8A = 5B$$

$$\frac{A}{B} = \frac{5}{8}$$

300
480

$$8 - 5 = 3 \rightarrow 180$$
$$1 = 60$$

Directions (: In each of the following questions 3 statements are given. You have to determine the which statement/statements are necessary to answer the given question:

Q.14) A shopkeeper sells articles at a certain profit. Find out the amount of profit.

- A.** Ratio of the selling price to the cost price of the articles is 4: 3.
B. If the cost price increases by Rs 500, and selling price remains the same, the profit percentage is decrease by $13\frac{8}{9}\%$.
C. If the marked price is kept at Rs 1000 above the cost price and a discount of 15% is given, then the profit percentage is decreased by $18\frac{3}{4}\%$.
- A. Only A and B together
B. A and either B or C
C. Only A and C together
D. All statements are required
E. None of these

Homework
↓
Comment



Q.15) Navya buys two articles A and B at the same cost price Rs. P. Then, she marks up both articles by 75% above their cost price. Then, she sold article A at Rs. 268 discount and article B at 20% discount.

Then, which of the following statement(s) is/are definitely correct :

I: The profit earned by selling article B is greater than that by article A. ~~X~~

II: Discount percent given on article A is more than that in B. ~~X~~

III: She earned equal profits by selling both the articles. ~~X~~

[a] Only I

[b] Only II

[c] Both I and II

[d] Only III

~~[e] None of the above~~

(A)

$$CP = P$$

$$MRP = 1.75P$$

$$Discount = 268$$

$$SP = 1.75P - 268$$

(B)

$$CP = P$$

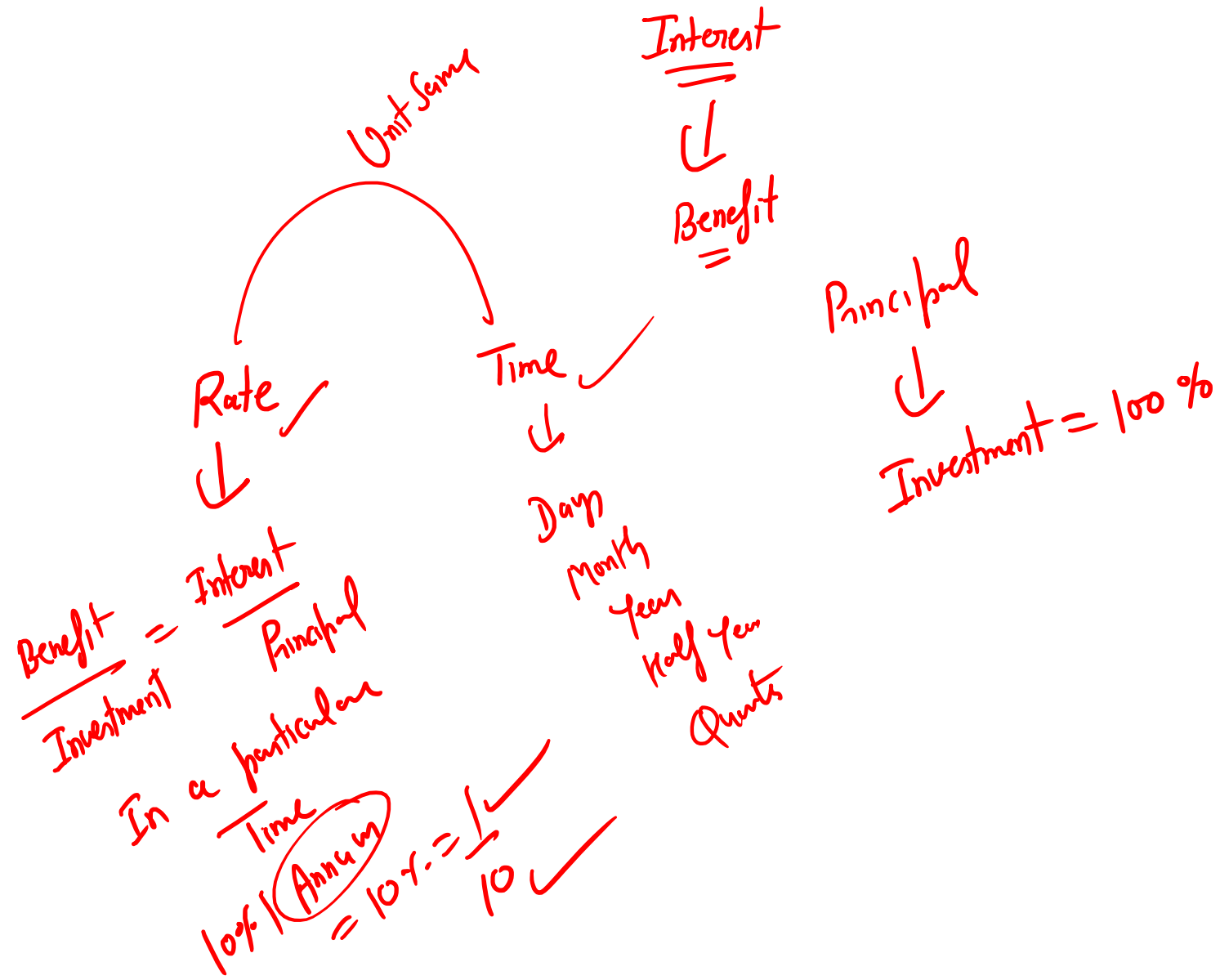
$$MRP = 1.75P$$

$$Discount = 20\%$$

$$SP = 80\% \text{ of } 1.75P$$

$$P = \text{Value}$$





$P = 8000$
 Rate = 12.5% (Annum)
 Time = 4 years
 SI = ?

SI

BASIC

$$\begin{aligned}
 SI &= \frac{P \times R \times T}{100} \\
 &= \frac{8000 \times 12.5 \times 4}{100 \times 100} \\
 &= 4000
 \end{aligned}$$

% Method

$$SI = \text{Rate} \times \text{Time}$$

$\frac{SI}{P}$

$$\begin{aligned}
 SI &= 12.5\% \times 4 \\
 &= 50\% \\
 &= 50\% \text{ of } 8000 \\
 &= 4000
 \end{aligned}$$

Rate Method

$$\begin{aligned}
 \text{Rate} &= 12.5\% \text{ (Annum)} \\
 &= \frac{I - P}{8 - P}
 \end{aligned}$$

P	I	
8	1	1000×4
↓	↓	$= 4000$
8000	1000	

Q16. At the rate of 8% p.a simple interest, a sum of Rs.4000 will earn how much interest in 2 years 3 months?

- 1) 790
- ~~2) 720~~
- 3) 820
- 4) 950

Rate = 8% Annually

Time = 2 year 3 month
↓ $\frac{3}{12} = \frac{1}{4}$

P = 4000

$SI = \frac{PRT}{100}$

$SI = 2 \times 8\% + \frac{1}{4} \times 8\%$

= 18%

18% of 4000
= 720



Q17. The rate of S.I for 1st 3 years is 6% , for next 4 years it is 7% . And the period beyond 7 years it is 7.5% per annum . If a man invest Rs. 18800 for 11 years , find the SI earned by him?

- 1) 14188
- 2) 14388
- 3) 16488
- 4) 14288

$P = 18800$
Time = 11 years

SI = ?

$$100\% = 18800$$

$$76\% = \frac{18800}{100} \times 76$$

$$= 188 \times 76$$

Time	Rate	
3 year	6%	$\rightarrow 3 \times 6\% = 18\%$
+ 4 year	7%	$\rightarrow 4 \times 7\% = 28\%$
+ 7 year	7.5%	$\rightarrow 4 \times 7.5\% = 30\%$
		<u>76%</u>

$\frac{PRT}{100}$

$$\begin{array}{r} 188 \\ \times 76 \\ \hline 1128 \\ 13160 \\ \hline 14288 \end{array}$$

Q18. A sum of money lent out at simple interest amounts to 720 after 2 years to 1020 after a further period of 5 years. The sum is:

- A) 500
- B) 600
- C) 700
- D) 710

Handwritten solution:

720 (at 2 years) \rightarrow 1020 (at 7 years)
 Difference: $1020 - 720 = 300$ (Interest for 5 years)
 $1 \text{ yr SI} = \frac{300}{5} = 60$
 $5 \text{ yr SI} = 300$
 $P + 2 \times 60 = 720$
 $P = 720 - 120 = 600$
 $P + 7 \times 60 = 1020$
 $P = 1020 - 420 = 600$
 $\text{Rate} = \frac{\text{One year Inter}}{P} \times 100$
 $= \frac{60}{600} \times 100 = 10\% \text{ Ann}$



Q19. Find the compound interest on Rs. 12000 at 10% p.a. for 2 years .?

- 1) Rs. 2620
- 2) Rs. 2500
- 3) Rs. 2520
- 4) Rs. 2000

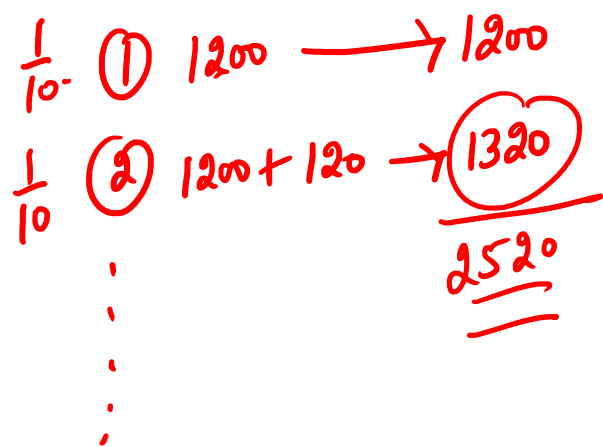
$$\frac{10}{100} = \frac{1}{10}$$

Line Method

Ratio Method

$P \left[1 + \frac{R}{100} \right]^T = \text{Amount}$

$P = 12000$



1 year 6 month

$$1200 + \frac{1320}{12} \times 6$$

$$= 1860$$

Q20. The difference between simple interest and compound interest on a certain sum of money for 3 years at 10% p.a. is Rs. 15.50. The sum is

- 1) 5000
- 2) 3000
- 3) 550
- 4) 500

$$3\text{yr CI} - 3\text{yr SI} = 15.5$$

$$\text{Rate} = 10\% = \frac{1}{10}$$

$$3\text{yr SI} = 100 \times 3 = 300 \text{ unit}$$

$$3\text{yr CI} = 315 \text{ unit}$$

$$315 \text{ unit} - 300 \text{ unit} = 15.5$$

$$1 \text{ unit} = \frac{15.5}{31} = \frac{1}{2}$$

$$P = 1000 \times \frac{1}{2} = 500$$

$$\text{Let } P = 10^3 = 1000 \text{ unit}$$

$$\frac{1}{10} \text{ (1) } 100 \text{ Int} \text{ --- SI/CI}$$

$$\frac{1}{10} \text{ (2) } 100 + 10 = 110 \text{ --- only 2nd year CI}$$

$$\frac{1}{10} \text{ (3) } 110 + 11 = 121 \text{ --- only 3rd year CI}$$

$$\underline{\underline{331 \text{ unit}}}$$

Q21. Find the sum which will amount to Rs. 9261 after 3 years compounded at the rate of 5% per annum ?

- 1) 8000
- 2) 8500
- 3) 9000
- 4) 9200

↓
↓
 $\frac{1}{20}$

$$\text{Rate} = 5\% \text{ Annum} = \frac{1 - I}{20 - P} \checkmark$$

	P	Amount
1 year	20	21
3 year	$20^{\frac{3}{1}}$	$21^{\frac{3}{1}}$
	20^3	$= 21^3$
	8000	= 9261
	↓	↓
	8000	9261

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



Q22. At what rate percent compounded yearly will Rs. 80000 amount to Rs. 88200 in 2 years.?

- 1) 6%
- 2) 7%
- 3) 3%
- 4) 5%

$$\text{Rate} = \frac{\text{one yr } I}{P} \times 100$$

	P	A
2 years	80000	88200
	400	441

1 year	$400^{\frac{1}{2}}$	$441^{\frac{1}{2}}$
--------	---------------------	---------------------

$$\frac{20}{1} = \frac{21}{1}$$

Interest = 1

$$\text{Rate} = \frac{1}{20} \times 100 = 5\%$$

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

$$80000 \left[1 + \frac{R}{100} \right]^2 = 88200$$

$$\left[1 + \frac{R}{100} \right]^2 = \frac{88200}{80000} = \frac{441}{400}$$



Q23. If the amount is $2\frac{1}{4}$ times of the sum after 2 years at compound interest, the rate of interest per annum is ?

- 1) 30%
- 2) 40%
- 3) 25%
- 4) 50%

$$\text{Amount} = 2\frac{1}{4} \times P$$

$$\frac{A}{P} = \frac{9}{4}$$

$$\begin{array}{l} \text{2 year} \quad P = 4 \\ \text{1 year} \quad 4^{\frac{1}{2}} = 9^{\frac{1}{2}} \\ \quad \quad \quad 2 = 3 \end{array}$$

$$\frac{1}{2} \times 100 = 50\%$$



Q24. A man borrows Rs. 3000 at 10% compound rate of interest. At the end of each year he pays back Rs. 1000. How much amount should he pay at the end of the third year to clear all his dues.?

- 1) 1294
- 2) 1683
- 3) 1495
- 4) 1193

SI

$$3000 \xrightarrow[300]{10\%} 3000 - 1000$$

$$2000 \xrightarrow[200]{10\%} 2000 - 1000$$

$$1000 \xrightarrow[100]{10\%} 1000 + 300 + 200 + 100 = 1600$$

CI

$$3000 \xrightarrow[300]{10\%} 3300 - 1000$$

$$2300 \xrightarrow[230]{10\%} 2530 - 1000$$

$$1530 \xrightarrow[153]{10\%} 1530 + 153 = 1683$$



Q25.

Quantity I: Manoj deposited Rs. 29400 for 6 years at simple interest. He got Rs. 4200 as interest after 6 years. Find the rate of interest per annum.

Quantity II: A sum of money at the rate of simple interest amounts to Rs. 2900 in 8 years and to Rs. 3000 in 10 years. Find the rate of interest per annum.

- A. Quantity I > Quantity II
- B. Quantity I ≥ Quantity II
- C. Quantity II > Quantity I
- D. Quantity II ≥ Quantity I
- E. Quantity I = Quantity II or Relation cannot be established.

① $6\text{yr SI} = 4200$
 $1\text{yr SI} = \frac{4200}{6} = 700$

Rate = $\frac{700}{29400} \times 100$

= 2.4%

① > ②

②

2900 100 3000
 \downarrow \downarrow
 $P + 8\text{yr SI}$ $P + 10\text{yr SI}$

$2\text{yr SI} = 100$
 $1\text{yr SI} = \frac{100}{2} = 50$

$P + 8 \times 50 = 2900$

$P = 2900 - 400$

$P = 2500$

Rate = $\frac{50}{2500} \times 100 = 2\%$



Q26. Ajay took a certain amount of money as a loan from a bank at the simple interest per annum and gave the same amount of money to Rajiv as a loan at the simple interest per annum. If at the end of 8 years, he made a profit in the transaction, then find the original amount?

Statement I: Loan taken by Ajay from the bank and loan given by the Ajay to Rajiv is at the rate of interest of 20% and 25% respectively.

Statement II: The amount of profit earned in the whole transaction by Ajay is Rs. 11,211.

- A. The data in statement I alone is sufficient to answer the question, while the data in statement II alone is not sufficient to answer the question.
- B. The data in statement II alone is sufficient to answer the question, while the data in statement I alone is not sufficient to answer the question.
- C. The data either in statement I alone or in statement II alone is sufficient to answer the question.
- D. The data given in both statements I and II together are not sufficient to answer the question.
- E. The data given in both statements I and II together are necessary to answer the question.

①
20% 25%
P = 5%
8 years = 8 x 5%
= 40%

②
Profit = 11211

① + ②
40% = 11211
100% = ?



A person invested different amount in different years at different rate of interest for different years as described in below table. Some values are missing. Answer the questions on the basis of given table and information in question.

I = Interest received after 1 year

Year	Interest Type	Principal	Rate%	Time in Years	I
2012	Simple/ Compound	Rs. 15000	6%/5%	5/---	---
2013	Compound	Rs. 25000	4%	---	---
2014	Compound	---	---	2	Rs. 800
2015	Simple	Rs. 25000	---	8	Rs. 1750
2016	Simple	---	---	6	Rs. 2800

Q27. In 2014, the difference between compound interest and simple interest for the given period is Rs 40. If the sum is invested for 3 years, what will be the compound interest after 3 years?

- A) Rs 2728
- B) Rs 2655
- C) Rs 2328
- D) Rs 2522
- E) Rs 2544

$\frac{1}{20} \text{ (1) } 800 \rightarrow 7800$
 $\frac{1}{20} \text{ (2) } 800 + 40 \rightarrow 840$
 $\frac{1}{20} \text{ (3) } 840 + 42 \rightarrow 882$
2522

Rate = $\frac{40}{800} = \frac{1}{20}$

$\frac{1}{20} \text{ of } P = 800$
 $P = 800 \times 20$
16000

Refer to the table and answer the given questions

Person	Type of Interest	Principal(P)	Amount (A)	Time in Years	Rate of Interest(%)/Annum
A	Compound	—	—	2	2
B	Simple	—	—	4	—
C	Compound	20000	—	2	4
D	Simple	—	29500	3	— 6%
E	Compound	10000	—	—	4

Q28. If the ratio of interest rate of E to that of D is 2:3 then what is the Principal(P) of D?

- A. 15000 E D
 B. 20000 2 : 3
 C. 35000 ↓ ↓
 D. 25000 4% 6%
 E. 30000

$$SI = 6\% \times 3 = 18\%$$

$$\text{Amount} = P + SI = 118\%$$

$$118\% = 29500$$

$$100\% = \frac{29500}{118} \times 100 = 25000$$



Q29. How much time will it take for an amount of 900/- to yield 81/- as interest at 4.5% per annum of simple interest?

- A. 2 years
- B. 3 years
- C. 1 years
- D. 4 years
- E. 5 years

$$SI = \frac{81}{900} \times 100 = 9\%$$

$$4.5\% \text{ Annun} \times \text{Time} = 9\%$$

↓
2 year

$$SI = R \times T$$



Q30. Mr. Thomas invested an amount of 13,900/- divided in two different schemes A and B at the simple interest rate of 14% p.a. and 11% p.a. respectively. If the total amount of simple interest earned in 2 years be 3,508/- what was the amount invested in Scheme B?

- A. 6,400/-
- B. 7,200/-
- C. 6,500/-
- D. 7,500/-
- E. 7,000/-

$$\begin{array}{c}
 13900 \\
 \swarrow \quad \searrow \\
 A \qquad \qquad B \\
 14\% \qquad \qquad 11\%
 \end{array}$$

$$\begin{array}{l}
 A + B = 13900 \\
 \downarrow \quad \downarrow \\
 7500 \quad \downarrow \\
 13900 - 7500 \\
 = 6400
 \end{array}$$

$$14\% \text{ of } A + 11\% \text{ of } B = 1754$$

$$11\% \cdot (A+B) + 3\% \text{ of } A = 1754$$

$$\frac{11}{100} \times 13900$$

$$3\% \text{ of } A = 1754 - 1529$$

$$= 225$$

$$100\% \text{ of } A = \frac{225}{3} \times 100$$

$$= 7500$$

2 year = 3508
 1 year = 3508 / 2 = 1754

Q31. Akash borrowed Rs 12000 from a bank at the rate of 6% for 8 years. After a certain period of time, the government introduced a scheme which reduced the interest rate by 3%. At the end of 8 years, Akash paid Rs 16680 in total then after how much time the government introduced the scheme?

- A. 6
- B. 5
- C. 2
- D. 3
- E. None of these.

Home Work
↓
Comment



Q.32) Rinku borrowed an amount of Rs 5000 from Milan and Rahul. What is the rate of interest?

A. Rinku returned the amount of Rs 5400 after due date to Milan. ✗

B. Rinku returned Rs 5900 to Rahul after due date. ✗

C. Rinku returned the money to Milan by SI, whereas to Rahul by compound interest. ✗

A. Only A and B together are sufficient

B. Only B and C together are sufficient

C. A, B and C together are necessary

D. Either A and B together or B and C together are sufficient

✓ E. A, B and C even together are not sufficient

Time = ?

$$\text{Rate} = \frac{\text{Ink}}{P}$$



Q.33) Ajay invested Rs. 'x' in a scheme Z. Scheme Z offers compound interest at the rate 10% compounded annually for the first three years and then simple interest at the rate 8% for the next five years. Find the value of 'x', if the total interest earned by Ajay after eight years is Rs. 34,536?

- A. Rs. 45000
- B. Rs. 36000
- C. Rs. 48000
- D. Rs. 36000
- E. Rs. 40000

HomeWork
↓
Comment



Q.34) Arun invested a certain sum of money at a rate of interest ___% for ___ years. If the ratio of the amount to interest is 216:91. Then find the rate of interest and time for which Arun invested the money.

I: 10%, 2 years

II: 20%, 3 years

III: 25%, 3 years

[a] Only I

[b] Only II

[c] Both I and II

[d] Both II and III

[e] All I, II and III

Amount : Interest P
 $216 = 91$ $216 - 91 = 125$

$P \quad A$
 $125 = 216$

(3) $25\% = \frac{1}{4}$

$P \quad A$
 $4 \quad 5$
 $3 \quad 3$
 $64 = 125$

(1) $10\% = \frac{1}{10}$

2y
 $10 = 11$
 $10^2 = 11^2$
 $100 = 121$

20% = $\frac{1}{5}$
 $P \quad A$
 $5 \quad 6$
 $5^3 = 6^3$
 $125 = 216$



Q.35) Rs. 13000 was invested for 2 years in scheme A which offers compound interest, and the rate of interest ___% per annum. The amount received after 2 years from scheme A is Rs. 15,730. What approximate amount is received on investing the amount obtained from scheme A again in a different scheme B for 2 years where the interest rate of scheme B is twice the rate of interest of scheme A?

- I. 10%, Rs 22,651
 - II. 12%, Rs 23,784
 - III. 15%, Rs 26,584
- [a] Only I
[b] Only II
[c] Only I and II
[d] Only I and III
[e] All I, II and III

Home Work
↓
Comment



Thank You

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