GATE

ALL BRANCHES

General Aptitude

QUANTITATIVE APTITUDE

Lecture No.- 05

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Recap of Previous Lecture

Topic Percentages

Topics to be Covered

Topic-1 More on Percentages

Topic-2 Profit & Loss

[MCQ]

#Q. 12 years ago, the average age of a husband and his wife was 20yrs. The average age is same today, they having two children. What is the present age of the youngest child if children differ in age by 2yrs?

Assignment

A 8

B 6

C 7

D 9

$A = \frac{\text{Sum}}{\text{No.}}$

$20 = \frac{32x2 + x + x + 2}{4}$

$80 = 64 + 2x + 2$

$\Rightarrow 14 = 2x$

$\therefore x = \frac{14}{2} = 7$

[MCQ]

#Q. The average of 5 consecutive integers starting with x is y. What is the average of 6 consecutive numbers starting with (x+2)?

Assignment

A $y+3$

B $\frac{2y+9}{2}$

C $y+2$

D $\frac{2y+5}{2}$

$x, x+1, x+2, x+3, x+4 \to y$

$x+2 = y$

$y, y+1, y+2, y+3, y+4, y+5 \to$

$\frac{y+2+y+3}{2}$

$= \frac{2y+5}{2}$

PERCENTAGE

Successive

210 → 225 → 275

331

$0.5 \times 0.5 = 0.25$

0.75

of

$0.5 \times 0.8 = 0.4$

0.60

$1.5 \times 0.5 = 0.75$

$1.1 \times 1.1 \times 1.1 = 1.331$

0.25

50% ↓ + 50% ↓ = 75% ↓

50% ↓ + 20% ↓ = 60% ↓

50% ↑ + 50% ↓ = 25% ↓

10% ↑ + 10% ↑ + 10% ↑ = 33.1% ↑

[MCQ]

#Q. When the price of mobile reduced by 20%, the number of mobile sold increased by 40%. The effect on the ~~sale~~ revenue was?

A. 12% increase

B. 12% decrease

C. 32% increase

D. 40% decrease

Revenue

0.8×1.4

$= 1.12$

12%

12% 4

[MCQ]

100 → 80 → 72 → 68.4

#Q. A trader offers three successive discounts of 20%, 10% and 5% to a customer. How much is overall single discount?

31.6

A 30%

B 31.6%

C 35%

D 68.4%

0.316 0.8 × 0.9 × 0.95

31.6% ↓

= 0.72 × 0.95

= 0.684

[MCQ]

#Q. 8% of the people eligible to vote are between 20 and 25 years of age. In an election 85% of those eligible to vote, who were between 20 and 25 actually voted. In that election number of person between 20 and 25, who actually voted, was what percentage of those eligible to vote?

A 4.2%

B 8%

C 6.4%

D 6.8%

$0.85 \times 0.08 \times V$

$= 0.068$ of Voters

6.8% of T.V

PERCENTAGE

Comparision

~~2 : 1~~

[MCQ]

#Q. If M is 25% more than N, then N is how much percent less than M?

$M = \frac{125}{100} N$

$\frac{100}{125} M = N$

$0.8\,M = N$

0.2

20%

[MCQ]

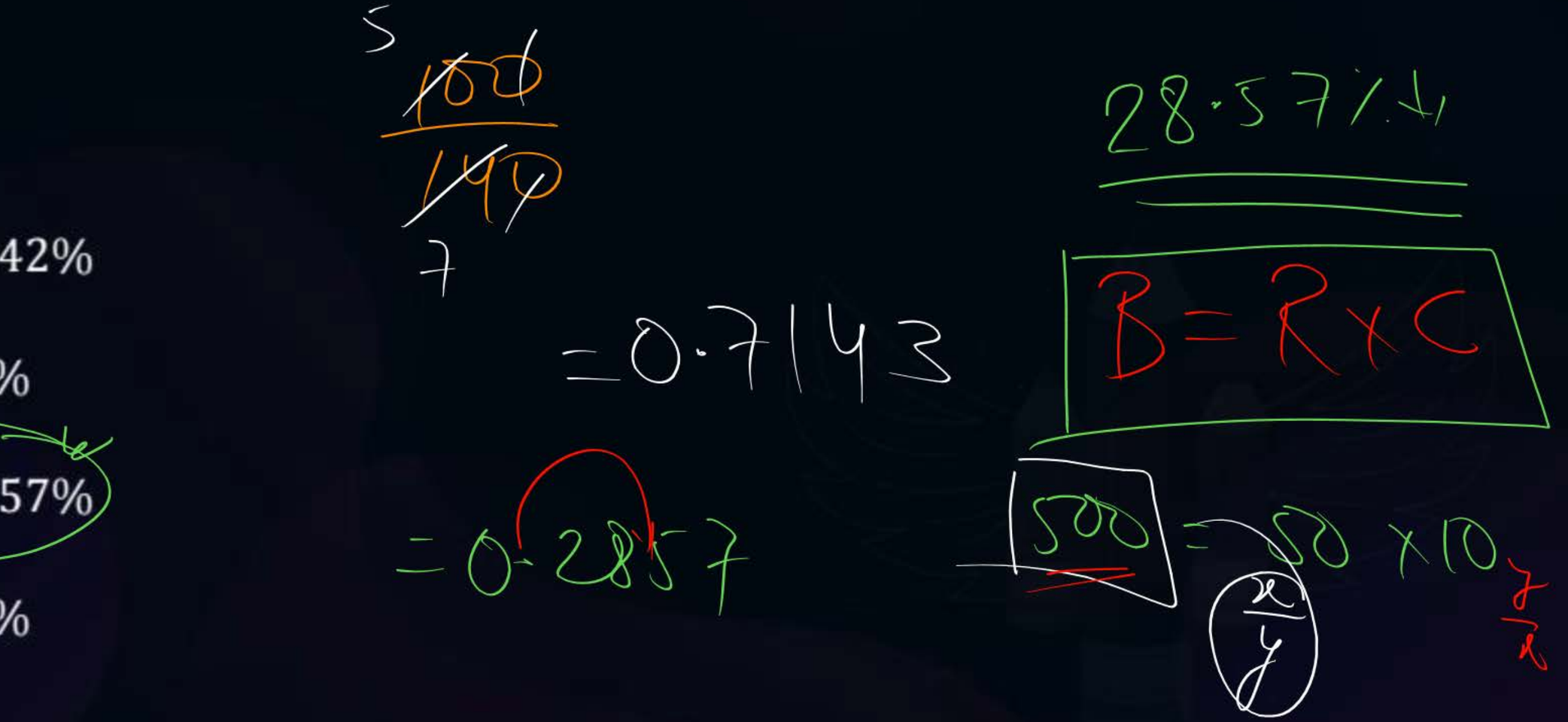
#Q. If the petrol rate is increased by 40%, then by how much percentage we should decrease our consumption, in order to maintain same budget?

A 71.42%

B 40%

C 28.57%

D 60%



[MCQ]

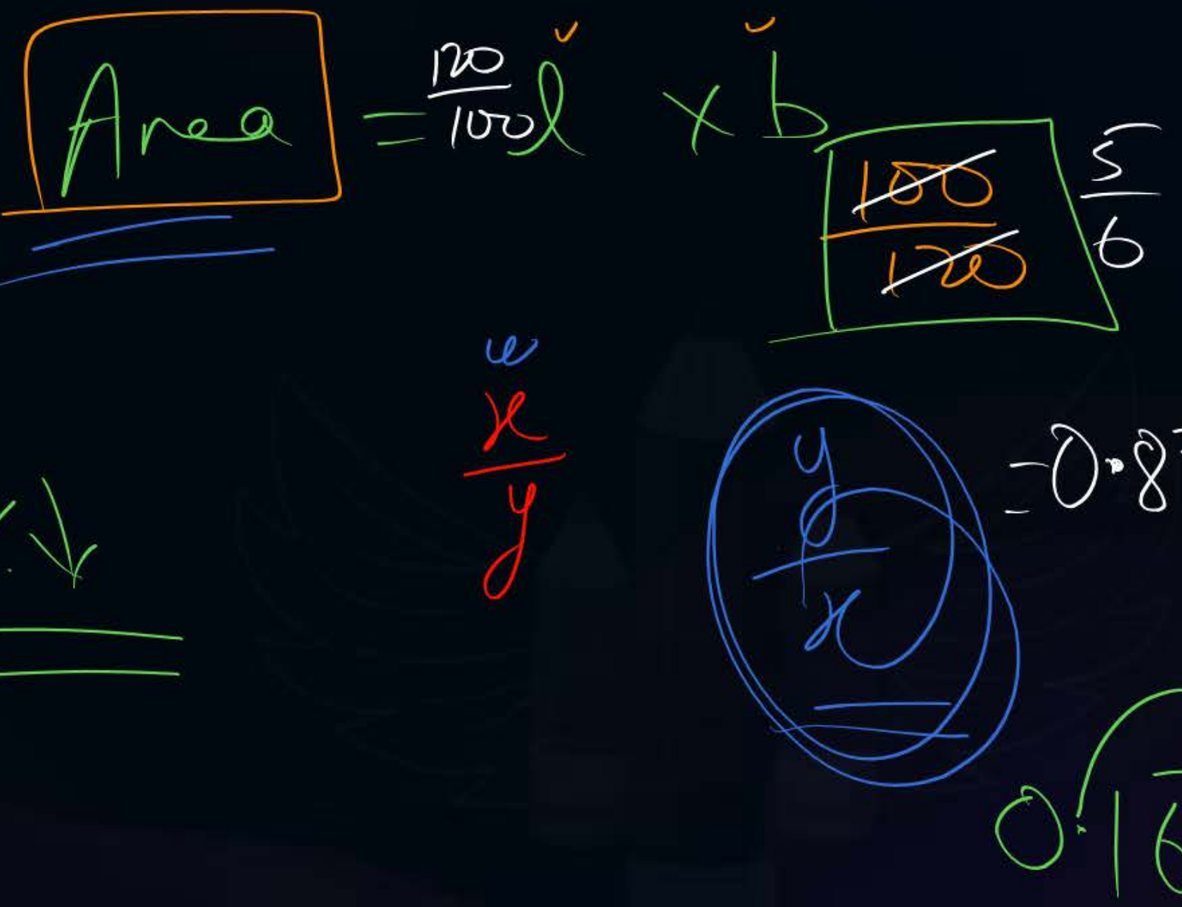
#Q. If the length of a rectangle increase by 20%, then by how much percent we should decrease the breadth in order to maintain same area?

A. 20%

B. 16.67%

C. 83.33%

D. 81.33%



PERCENTAGE

Error :

$$= \frac{\text{diff}}{\text{A.V}} \times 100$$

$$\frac{9}{45} \times 100$$

45

$$\frac{15}{20} \times 100$$

20°C 35°C

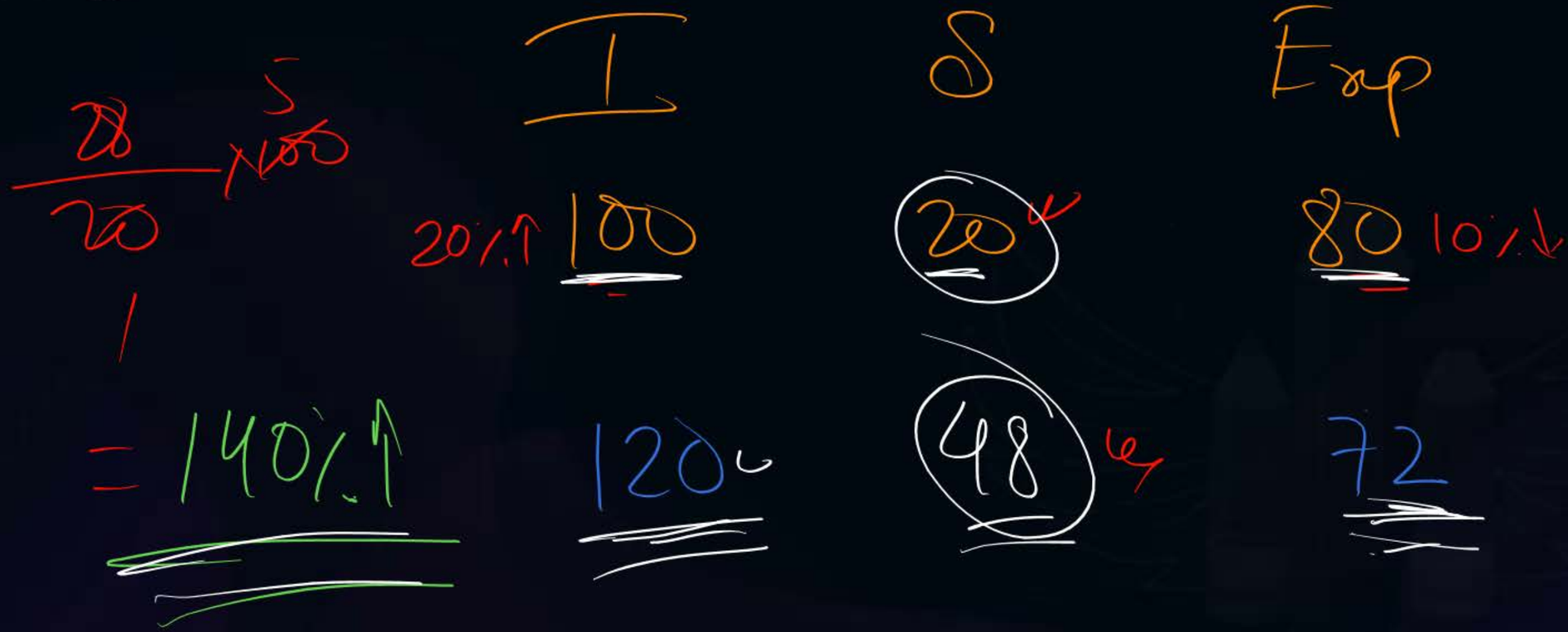
54

∴ increase

∴ decrease

[MCQ]

#Q. Sanjeev saves 20% of his income. If his income is increased by 20% and expenditure decreased by 10%, then find the percentage change in his savings.



[MCQ]

#Q. If the side of a square is increased by 20%, then what is the percentage change in its area?

Assignment

A 44%

B 80%

C 22%

D 144%

[MCQ]

#Q. The population of a town doubled every 5 years from 2000 to 2015. What is the percentage increase in population in this period?

Assignment

A 800%

B 400%

C 700%

D 600%

[MCQ]

#Q. If P is 60% taller than Q, by what percent is Q shorter than P?

Assignment

A 40%

B 37.5%

C 62.5%

D None of these

[MCQ]

#Q. A is twice B and B is 200% more than C. By what percent is A more than C?

Assignment

A 200%

B 400%

C 500%

D 600%

[MCQ]

#Q. The population of a village is 5500. If the number of males increases by 11% and the number of females increases by 20%, then the population becomes 6330. The population of the female in the village is?

Assignment

A 2000

B 2500

C 3000

D 3500

[MCQ]

#Q. Rohan spends 40% of his monthly income on food items and 50% of the remaining on clothes and conveyance. He saves one-third of the remaining amount after spending on food, clothes and conveyance. If he saves Rs. 19200 every year, what is his monthly income?

Assignment

A 32000

B 16000

C 12000

D 6000

[MCQ]

#Q. 5% of income of P is equal to 15% of income of Q and 10% of income of Q equal 20% of income of R. If R's income is 2000, then What is total income of P, Q and R?

Assignment

A 9000

B 12000

C 15000

D 18000

PROFIT & LOSS

Investment → C.P.

gain / profit

g! / P!

Return

S.P.

loss

l!

Marked

M.P.

discount

d!

d!

Labelled

List

Typed

PROFIT & LOSS

S.P. > C.P
= Profit

S.P. < C.P.
= Loss

S.P. = C.P.
= No Profit No Loss

$\frac{S.P.}{C.P.} > 1$

$\frac{S.P.}{C.P.} < 1$

$\frac{S.P.}{C.P.} = 1$

PROFIT & LOSS

Note:

Profit or loss percentage is to be applied always to the Cost Price only.

Discount percentage is to be applied always to the Marked Price only.

[MCQ]

#Q. If selling price and cost price are in the ratio 8:5, then find the profit% or loss%.

$$\frac{SP}{CP} = \frac{8}{5} = 1.6$$

60% P

.6

[MCQ]

#Q. A Fruit seller purchases 11 orange for Rs. 10 and sells 10 orange for Rs. 11. If he follows the same process, then, find his profit or loss%?

Assignment

[MCQ]

#Q. A milk vendor purchases milk at Rs. 72/ litre, and sells at Rs. 60/ litre. For every 1 litre milk he adds 200ml. of water. While selling milk he cheats 200ml. in 1 liter measurement. Find his Profit or Loss percentage.

Assignment

2 mins Summary

Topic Profit & Loss

THANK - YOU