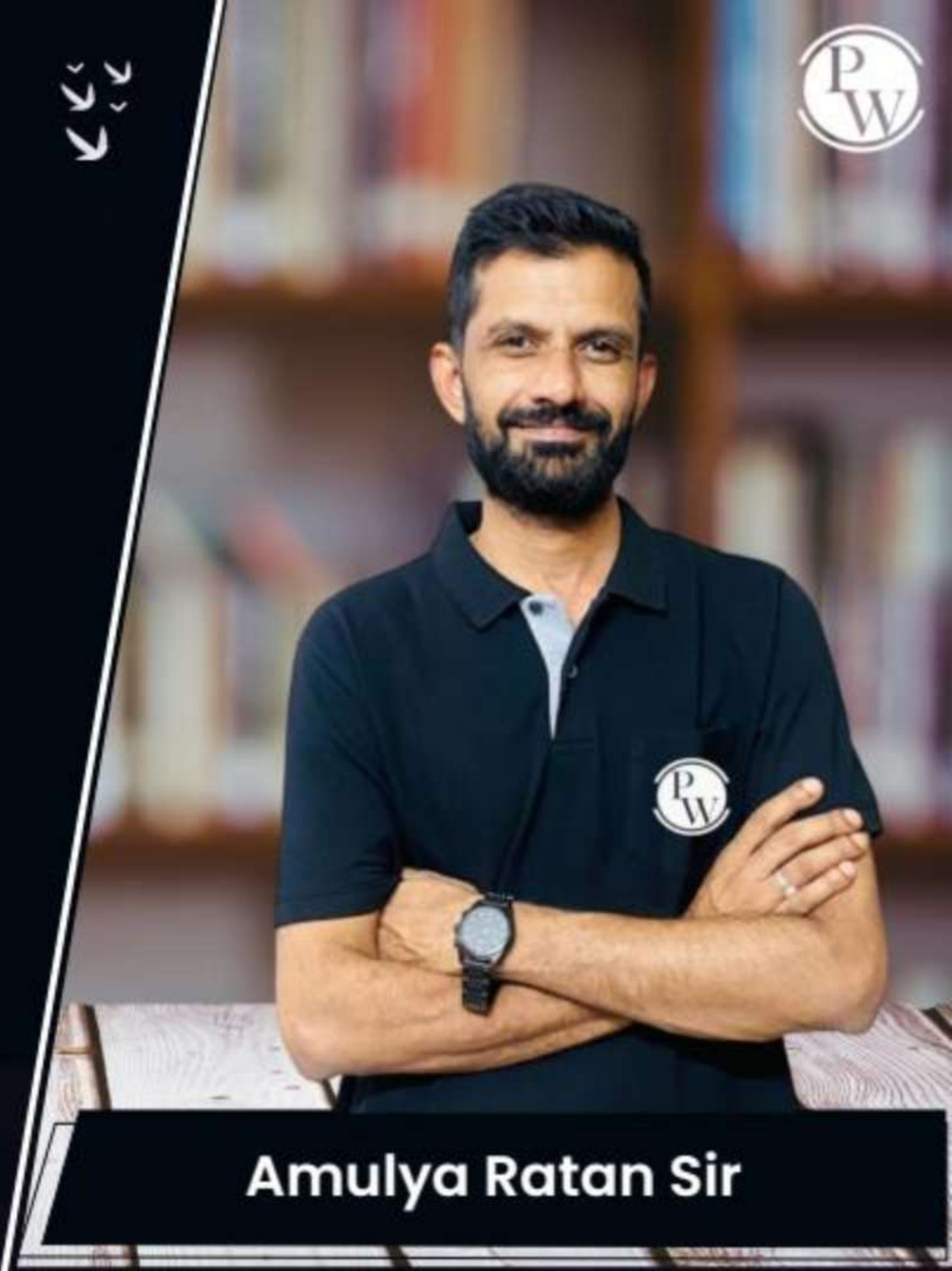
ALL BRANCHES

GENERAL APTITUDE

Quantitative Aptitude

Super 1500

Lecture No.- 03



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Recap of Previous Lecture

Topic Question Based on Quantitative Aptitude

Topics to be Covered

Topic Quantitative Aptitude

[MCQ]

[Marks 1]

#Q. By which least natural number should 400! be multiplied so that the resultant number is perfectly divisible by 13^{40}?

A 13^8

B 13^{12}

C 13^{17}

D 13^5

$400! \rightarrow 13^{32}$

$\frac{400}{13} = 30$

$\frac{30}{13} = 2$

$\frac{2}{13} = 0$

32

$\times 13^8$

13^{40}

[MCQ]

[Mark 1]

#Q. What is the remainder when 4^{900} is divided by 7?

A 4

B 1

C 2

D 0

$3\overline{)900}^{300}$

$\underline{900}$

$\times$

$4^1 = 4 \div 7 \Rightarrow R = 4$

$4^2 = 16 \div 7 \Rightarrow R = 2$

$4^3 = 64 \div 7 \Rightarrow R = 1$

$4^4 = 256 \div 7 \Rightarrow R = 4$

$4^5 = 1024 \div 7 \Rightarrow R = 2$

1

[MCQ] [Mark 2]

#Q. There are two examination halls A and B. If 10 students shifted from A to B, then the number of students will be equal in both examination halls. If 20 students shifted from B to A, then the students of A would be doubled to the students of B. What would be the number of students in A and B respectively?

A 60; 40

B 70; 50

C 80; 60

D 100; 80

$A - 10 = B + 10$

$A - B = 20$

$2(B - 20) = A + 20$

$2B - 40 = A + 20$

$2B - A = 60$

$2B - A = 60$

$-B + A = 20$

$B = 80$

[MCQ] $A=\frac{1}{4}$ | $B=\frac{1}{8}$ | $C=\frac{1}{16}$ | $D=\frac{1}{32}$ [Mark 2]

#Q. A can complete a piece of work in 4 days. B takes double the time taken by A, C takes double that of B and D takes double that of C to complete the same task. They are paired in groups of two each. One pair takes two third the time needed by the second pair to complete the work. Which is that second pair?

BC

A AB $\frac{1}{8}+\frac{1}{16}=\frac{3}{16}$

C AC $\frac{16}{3}$ $\times\frac{2}{3}$

AD

$\frac{1}{4}+\frac{1}{32}=\frac{9}{32}$

B BC

$\frac{32}{9}$

D AD

AB

$\frac{1}{4}+\frac{1}{8}=\frac{3}{8}$

$\frac{8}{3}$

CD

$\frac{1}{16}+\frac{1}{32}=\frac{3}{32}$

$\frac{32}{3}$

[MCQ] [Marks 2]

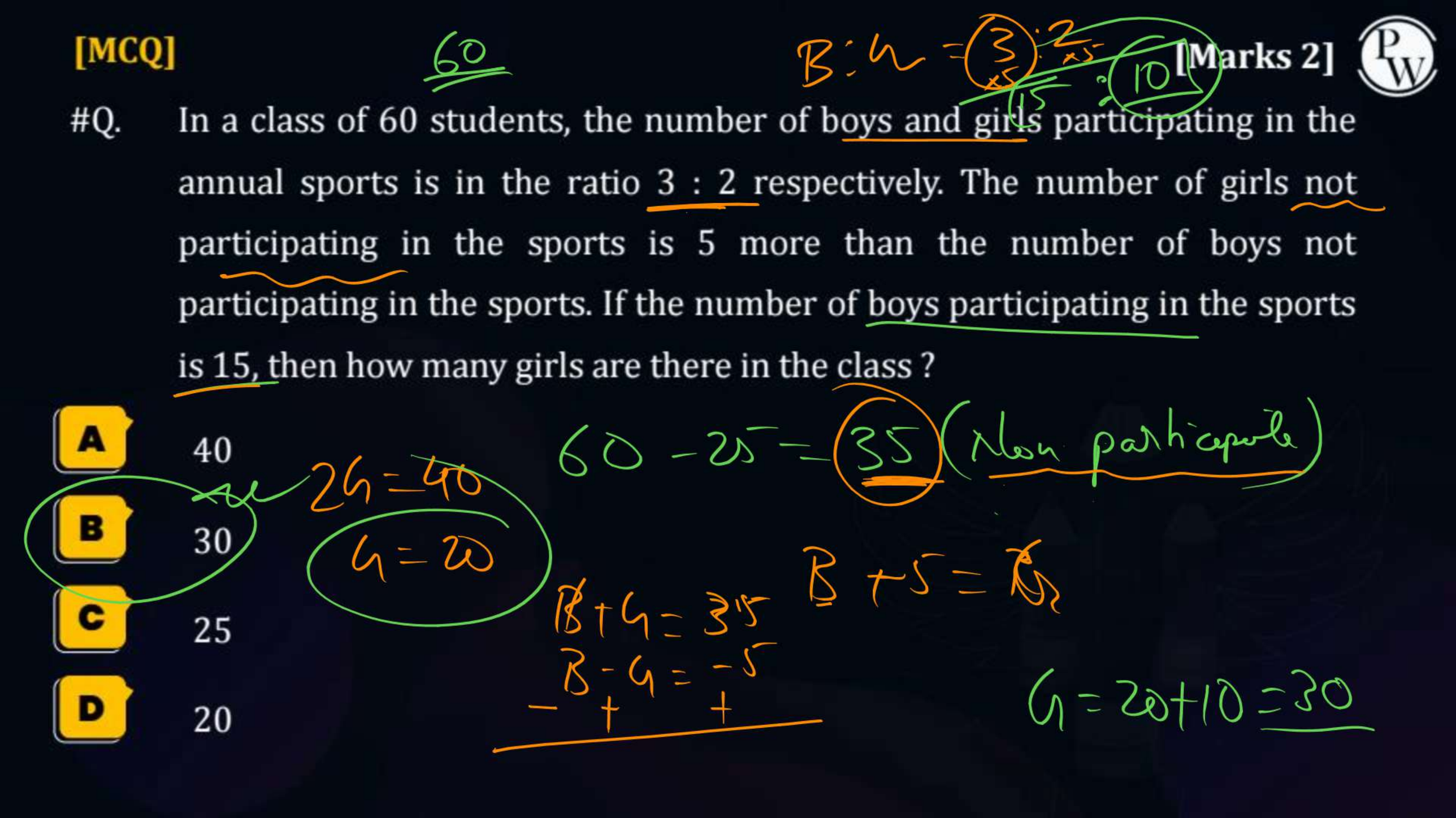
#Q. In a class of 60 students, the number of boys and girls participating in the annual sports is in the ratio 3 : 2 respectively. The number of girls not participating in the sports is 5 more than the number of boys not participating in the sports. If the number of boys participating in the sports is 15, then how many girls are there in the class ?

A 40

B 30

C 25

D 20



[MCQ] [Mark 2]

#Q. A trader sells an item to retailer at 20% discount, but charges 10% on the discounted price, for delivery and packaging. The retailer sells it for ₹2046 more, thereby earning a profit of 25%. At what price the trader marked the item?

A ₹ 9400

B ₹ 9000

C ₹ 8184

D ₹ 9300

S.P → C.P

$1.1 \times 0.8\, x = C.P$ of R

$\frac{8184}{0.88} = x$

$x = 9300$

$2046 \times \frac{100}{25}$

$= 8184 \pm 0.88x$

2046 ⇒ C.P 25%

? ⇒ 100%

[MCQ]

[Mark 2]

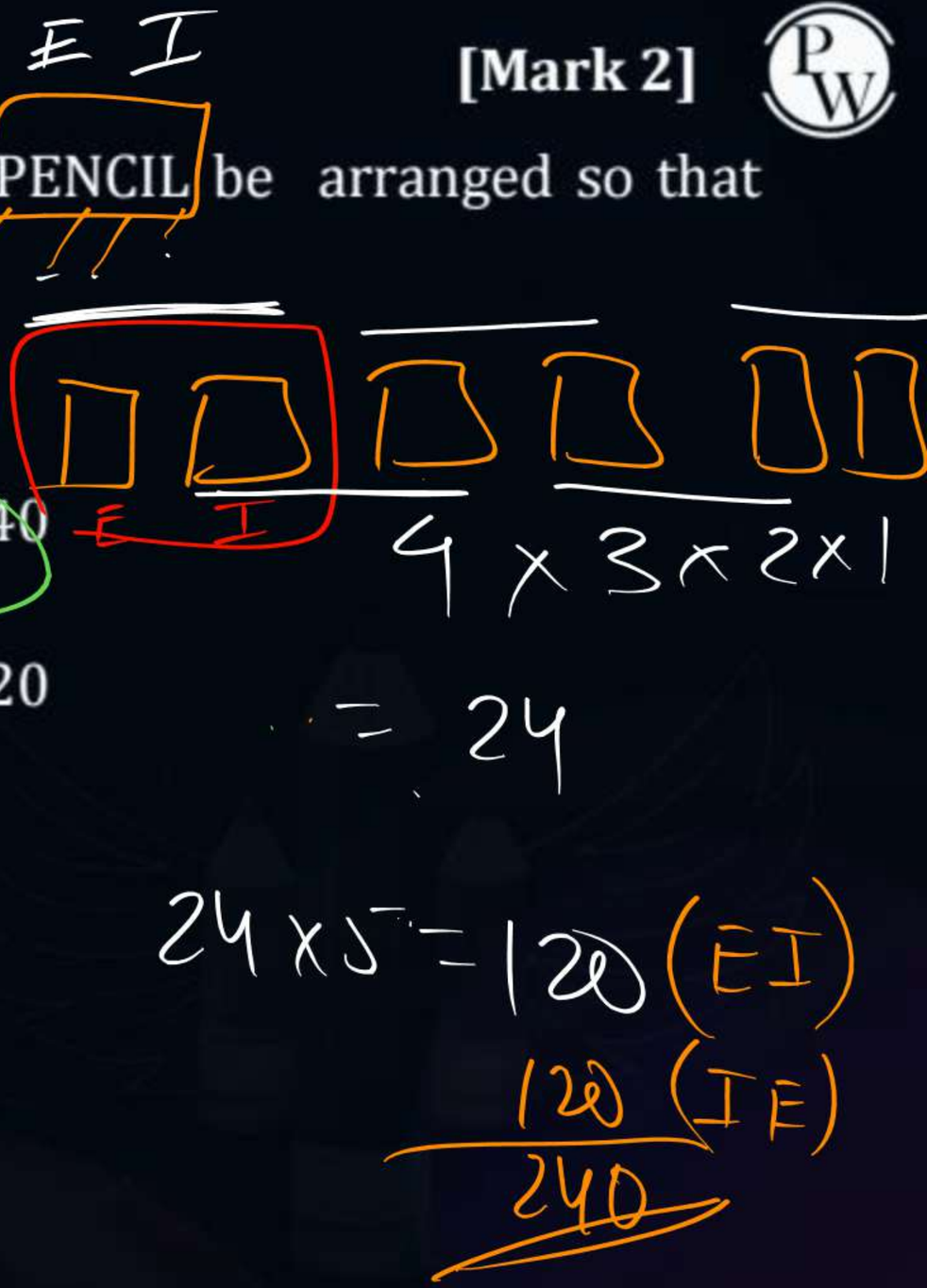
#Q. In how many ways can letters of the word PENCIL be arranged so that vowels are always together?

A 120

B 240

C 600

D 720

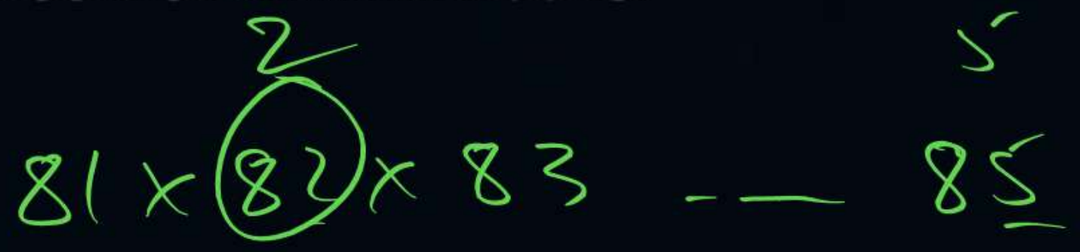


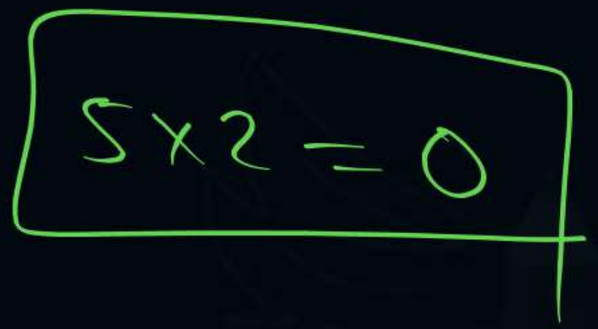
[MCQ]

[Mark 1]

#Q. The digit in the unit's place of the product

81 x 82 x 83 x 84 x ..... x 99 is?





A 0

B 4

C 6

D 8

[MCQ] [Marks 2]

#Q. 25 kg of alloy X is mixed with 125 kg of alloy Y. If the amount of lead and tin in the alloy X is in the ratio 1:2 and the amount of lead and tin in the alloy Y is in the ratio 2:3, then what is the ratio of lead to tin in the mixture?

L : T = 7 : 11

A 1:2

B 7:11

C 2:3

D 3:5

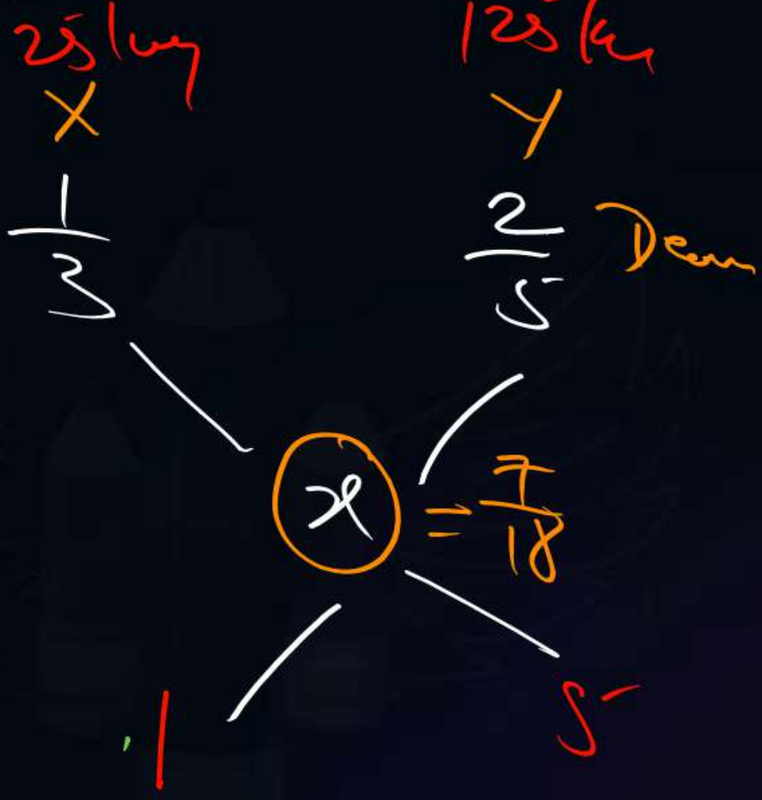
$$\frac{\frac{2}{3}-x}{x-\frac{1}{3}} = \frac{1}{5}$$

$$\Rightarrow x-\frac{1}{3} = 2-5x$$

$$\Rightarrow 3x-1 = 6-15x$$

$$\Rightarrow 18x = 7$$

$$x = \frac{7}{18}$$



[MCQ]

$B = \frac{1}{6}$ | A & C $= \frac{5}{6}$ ($\frac{5}{12}$ $\frac{5}{12}$)

[Marks 2]

#Q. A, B and C together start a business. B invest 1/6 of the total capital while investments of A and C are equal. If the annual profit on this investment is ₹33600, then find the difference between the profits of B and C.

$A : B : C = 5 : 2 : 5$

$B = \frac{2}{12} \times 33600$ (2800)

$B = 5600$

$C = \frac{5}{12} \times 33600$ (2800)

$= 14000$

$14000 - 5600$

$= 8400$

A ₹ 8400

B ₹ 9600

C ₹ 7200

D ₹ 6000

[MCQ]

[Marks 1]

#Q. If 17 $ 22 = 4 and 56 $ 13 = 7, then find the value of 71 $ 25 = ?

A 56

B 96

C 1

D 8

$$\frac{17}{1+7} \quad \frac{22}{2+2}$$

$$8 - 4 = 4$$

$$\frac{56}{5+6} \quad \frac{13}{1+3}$$

$$11 - 4 = 7$$

$$\frac{71}{7+1} \quad \frac{25}{2+5}$$

$$8 - 7 = 1$$

[MCQ]

[Mark 1]

#Q. If in a race of 200 metres, A beats B by 20 metres or 5 seconds, then what is the speed of A (in m/sec)?

A = 200m

B = 180m

A 30/7

B 40/9

C 23/5

D 41/8

$S_B = \frac{20}{5} = 4$ m/sec

$\frac{180}{4}$ sec = 45 sec

$S_A = \frac{200}{45}$

$= \frac{40}{9}$ m/sec

[MCQ]

[Mark 2]

#Q. A manufacturer sells the product to its stockist at 10%gain. Then the stockist sells it to the dealer and the dealer sells to the retailer at a mark up of 10% and 20% respectively. The retailer marks up his cost by 20% and then offers 10% discount to the customer. If the customer had bought it from the stockist directly at the stockist's selling price, then how percent less in price he would have got the product in comparison to buying from retailer?

(A) 29.6%

(B) 25.4%

(C) 22.4%

(D) 24%

[MCQ]

[Marks 1]

#Q. The average of nine numbers is 50. The average of the first five numbers is 54 and that of the last three numbers is 52. Then, the sixth number is?

A 34

B 24

C 44

D 30

270+156=426

24

[MCQ]

[Marks 1]

#Q. Find the highest power of 20 in 200!

20^{49}

$20 = 2 \times 2 \times 5$

2^{197}

$\frac{200}{2} = 100$

$\frac{100}{2} = 50$

$\frac{50}{2} = 25$

$\frac{25}{2} = 12$

$\frac{12}{2} = 6$

$\frac{6}{2} = 3$

$\frac{3}{2} = 1$

$\frac{1}{2} = 0$

197

$\frac{200}{5} = 40$

$\frac{40}{5} = 8$

$\frac{8}{5} = 1$

$\frac{1}{5} = 0$

49

$\frac{197}{2} = 98$

98

A 13

B 53

C 49

D 97

2 mins Summary

Topic Quantitative Aptitude

1500

0 15

THANK - YOU