Average

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Average → সাধারণ মধ্যক / গড়

2, 3, 4

2, 3, 4

$\frac{2+4}{2} = 3$

Arithmetic series

mean

2, 4, 6, 8, 10

Arithematic mean

গাণিতিক গড়

$$\text{Averag} = \frac{\text{Sum of quantities}}{\text{Number of quantities}}$$

Sum of quantities = Average × Number of quantities

Geometric mean series

2, 32

$2, 4, 8, 16, 32$

$(2 \times 32)^{\frac{1}{2}}$

Q1: The numbers 2, 3, 5 and x have an average equal to 4. What is the value of x? [BKB (Cash)-17]

4×4

$2 + 3 + 5 + x = 4 \times 4$

$x = 16 - 10 = 6$

Q2: Selim gets grades of 79, 83, 86 and 89 on an four math tests. What grades must he get on his fifth test to average 85? [BB (Cash)-11]

Total numbers in first 4 test = 79+83+86+89

= 337

" " " 5 test = 85 × 5

= 425

So, number of fifth test = 425 − 337

= 88

Q3: If the average of m numbers is n^2 and that of n numbers is m^2, then the average of (m+n) = ?

mn^2

m^2n

Sum of m numbers and n numbers $= mn^2 + m^2n$

$= mn(m+n)$

$(m+n)$

Average of $(m+n)$ numbers $= \frac{mn(m+n)}{m+n}$

$= mn$

Q4: The average (arithmetic mean) of x and y is 20. If z = 5, what is the average of x, y and z? [BB (AD)-21]

$x + y = 40$

$z = 5$

$x + y + z = 40 + 5 = 45$

$\frac{45}{3} = 15$

Q5: The average attendance of a college for the first three days of a week is 325 and first four days is 320. How many were present on the fourth day?

[Comb Bank (Officer)-19]

Total present students first 3 days = 325×3

$= 975$

" " " 4 days = 320×4

$= 1280$

present students in 4th day = $1280 - 975$

$= 305$

Q6: The Average of 6 numbers is 8.5. When one number is discarded, the average of the remaining numbers, becomes 7.2. What is the discarded number?

$8.5 \times 6 = 51$

$7.2 \times 5 = 36$

$51 - 36 = 15$

Q7: The average daily wage of 10 workers is Tk. 400. If the lowest wage is Tk. 300, then what is the possible maximum wage? [Comb (off & SO)-2023]

Total wages of 10 workers = 400 × 10 = 4000

Lowest " " 9 " = 300 × 9 = 2700

∴ The possible maximum wage of one worker = 4000 − 2700 = 1300

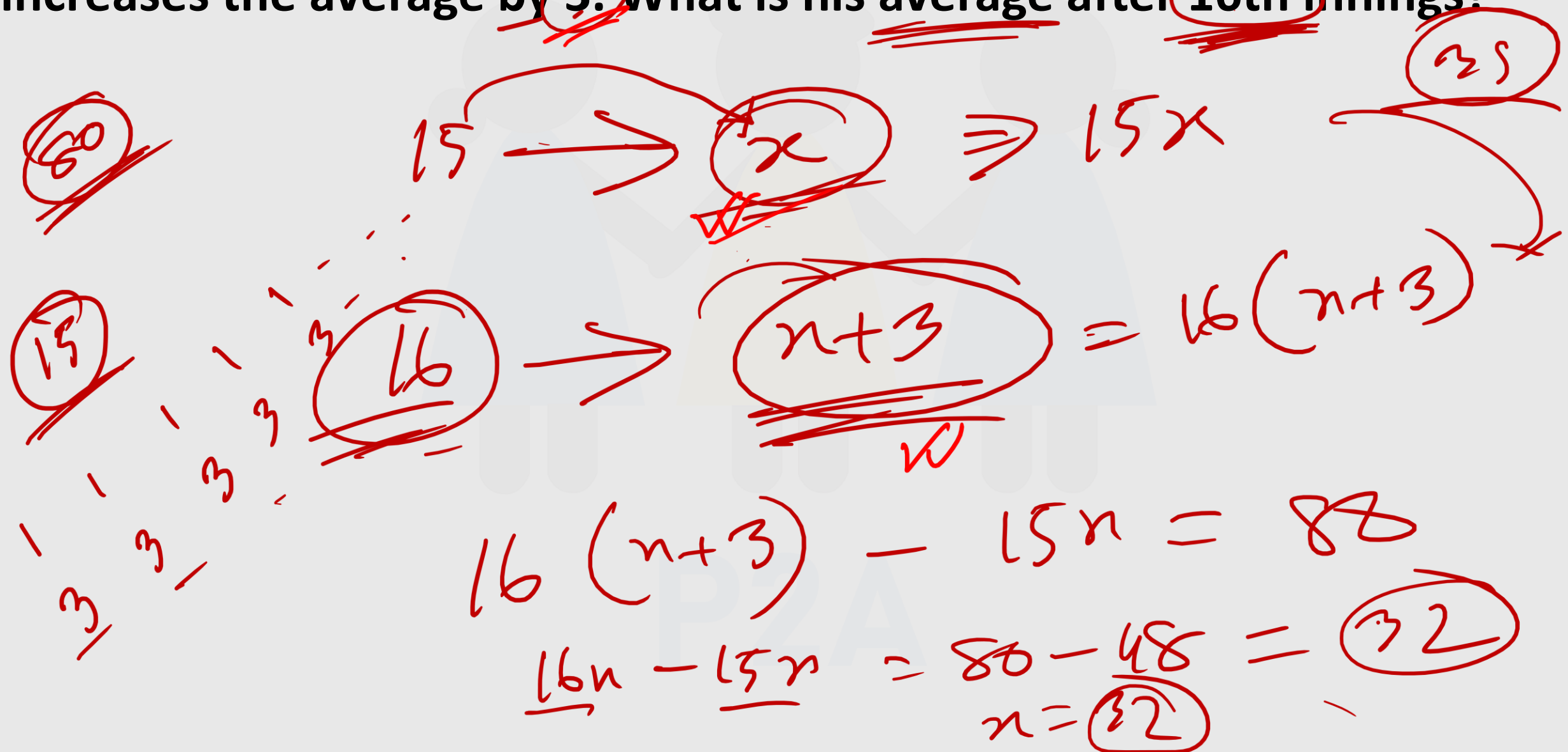
Q8: The average of runs of a cricket player of 10 innings was 32. How many runs must he make in his next innings so as to increase his average of runs by 4? [Comb (Cash)-22, Pubali Bank (PO)-23]

$10 \times 32 = 320$

$11 \times 36 = 396$

$396 - 320 = 76$

Q9: A batsman makes a score of 80 runs in the 16th innings and increases the average by 3. What is his average after 16th innings?



1 2 3 4 5 . . . . . 15 16

x + 3 x + 3 x + 3 x 3 x 3 x 3

$15 \times 3 = 45$

$80 - 45 = 35$

3

35

$80 - (3 \times 15) = 45$

16

80

P2A

Q10: The average age of A, B, C, D and E is 40 years. The average age of A and B is 35 years and the Average of C and D is 42 years. Age of E is ? [Comb (Cash)-19]

$A+B+C+D+E = 40 \times 5 = 200$

$A+B = 35 \times 2 = 70$

$C+D = 42 \times 2 = 84$

$A+B+C+D = 70+84 = 154$

$E = 200 - 154 = 46$

Q11: Out of three numbers, the first is twice the second and is half of the third. If the average of the three numbers is 56, then difference of first and third numbers is- [Aggarwal-65]

Let, the second number be $x = 24$

$\therefore$ " 1st " $n = 2x \Rightarrow 48$

" 3rd " $= 2 \times 2n = 4x = 96$

$4n - 2n$

$= 2n$

2×24

$= 48$

$n + 2n + 4n = 56 \times 3 \Rightarrow 7n = 168$

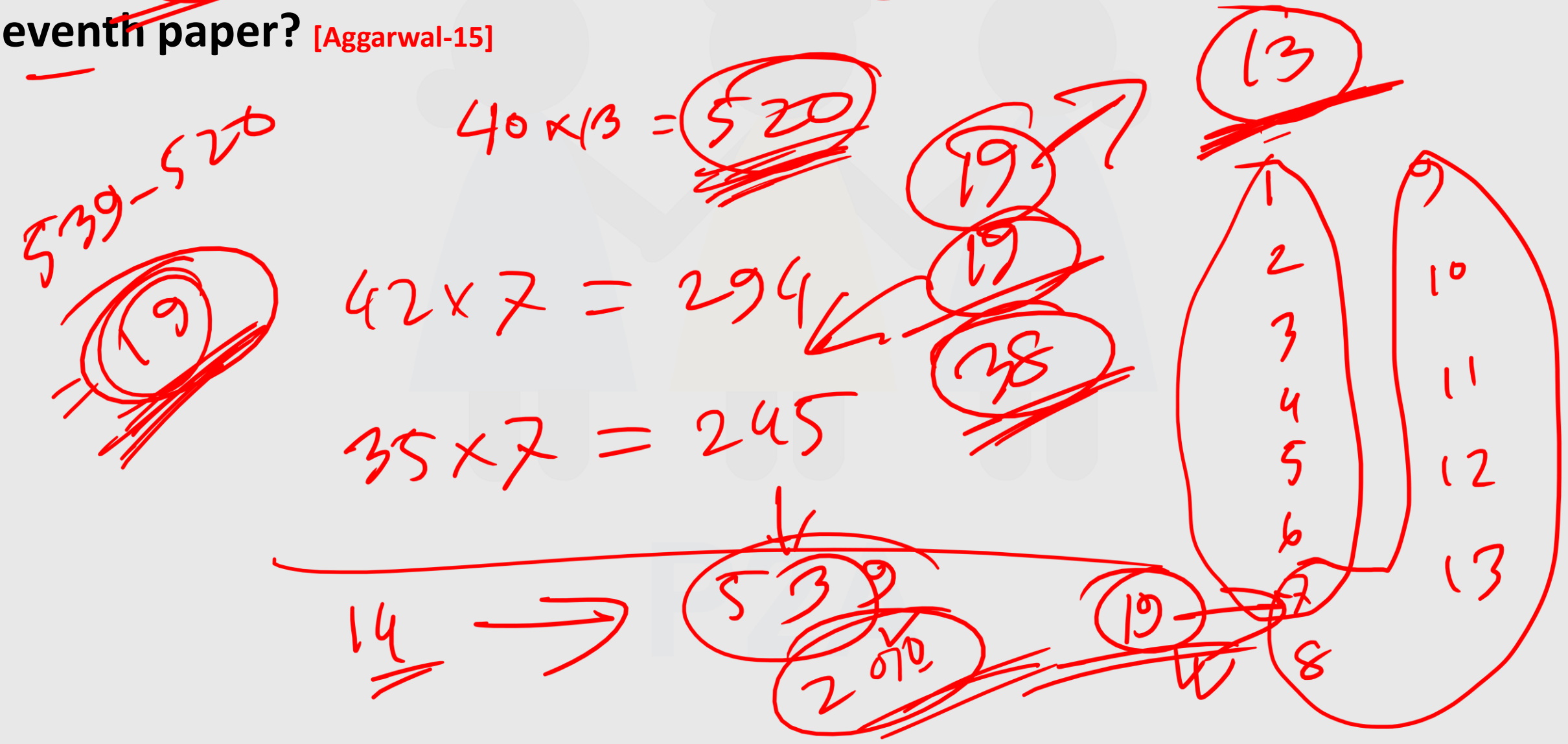
$n = 24$

Q12: The mean of 5 observations is 60, the mean of 10 observations is 30 and the mean of 15 observations is 20. The mean of all the 30 observations is- [Aggarwal-52]

$$= \frac{60\times5 + 30\times10 + 20\times15}{30}$$

$$= \frac{300+300+300}{30} = \frac{900}{30} = 30$$

Q13: The average marks of 13 papers is 40. The average marks of the first 7 papers is 42 and that of the last 7 papers is 35. What are the marks of the seventh paper? [Aggarwal-15]



Q14: The average of 11 results is 60. If the average of first six results is 58 and that of last six is 63, find the 6th result. [Aggarwal-156]

Q15: The average monthly income of P and Q is Tk. 5050. The average monthly income of Q and R is Tk. 6250 and the average monthly income of P and R is Tk. 5200. The monthly income of P is- [Aggarwal-113]

$P+Q = 5050 \times 2 = 10100$

$Q+R = 6250 \times 2 = 12500$

$P+R = 5200 \times 2 = 10400$

$2(P+Q+R) = 33000 \Rightarrow P+Q+R = 16500$

$(P+Q+R)-(Q+R) = 16500 - 12500$

$P = 4000$

Thank You