Progressions

Q1. There is an AP 1, 3, 5.... Which term of this AP is 55?

A. 27th B. 26th C. 25th D. 28th

Q2. Find the sum of all three-digit natural numbers, which on being divided by 5, leaves a remainder equal to 4.

A. 57270 B. 96780 C. 49680 D. 99270

Q3. Find the value of the expression 1 - 6 + 2 - 7 + 3 - 8 +..... upto 100 terms.

A. -240 B. -250 C. -260 D. None of these

Q4. How many terms are identical in the two AP's 1, 3, 5... upto 120 terms and 3, 6, 9... upto 80 terms?

A. 38 B. 39 C. 40 D. 41

Q5. Sum of four terms of an AP is 20 and their product is 384. Find the largest of those four numbers.

A. 6 B. 8 C. 10 D. None of these

Q6. The sum of third and ninth term of an A.P is 8. Find the sum of the first 11 terms of the progression.

A. 44 B. 22 C. 19 D. None of these

Q7. Four numbers are inserted between the numbers 4 and 39 such that AP results. Find the largest of the four numbers.

A. 31.5 B. 31 C. 32 D. 30

Q8. 5 AM's are inserted between 51 and 71. Find sum of those 5 AMs.

A. 295 B. 305 C. 315 D. None of these

Q9. The seventh term of a GP is 8 times the fourth term. What will be the first term when its fifth term is 48?

A. 4 B. 3 C. 5 D. 2

Q10. Product of three terms of a GP is 729 and their sum is 39. Find the middle of the three numbers.

A. 9 B. 6 C. 12 D. None of these

Q11. If a, b, c are in GP, then log a, log b and log c are in _____?

A. AP B. GP C. HP D. None of these

Q12. A square is drawn by joining the midpoints of the sides of a given square, a third square drawn inside the second square in the same way and this process continues indefinitely, if the side of the first square is 16cm, what is the sum of areas of all squares?

A. 1024 B. 512 C. 2048 D. 1200

Q13. Four geometric means are inserted between 1/8 and 128. Find the third geometric mean.

A. 4 B. 16 C. 32 D. 8

Q14. If the first two terms of a HP are 2/5 and 12/13 respectively, find the 13^{th} term.

A. 13.5 B. -14.5 C. 14.5 D. None of these

Q15. The average of 5 consecutive integers starting with m as the first integer is n. What is the average of 9 consecutive integers that start with m+2?

A. m + 4 B. n + 6 C. n + 4 D. m + 5

Q16. The sum of first 3 terms of a G.P is 16 and the sum of next 3 terms is 128. Find the sum of n terms of the G.P.

A. $16/7(2^n+1)$ B. $16/7(2^n-1)$ C. $9/7(2^n+1)$ D. $16/7(3^n-1)$

Q17. Let 'x' be the AM and 'y', 'z' be the two GM's between any two positive numbers. The value of $(y^3+z^3)/(xyz)$ is _____?

A. 2 B. 3 C.1/2 D. 3/2

Q18. If the m^{th} term of an AP is 1/n and n^{th} term is 1/m, then find the sum to mn terms.

A. (mn-1)/4 B. (mn+1)/4 C. (mn+1)/2 D. (mn-1)/2

Q19. Find the sum to n terms of the series 11 + 103 + 1005 + …

A. $[10(10^n - 1)/9]+1$ B. $[10(10^n - 1)/9]+n$ C. $[10(10^n - 1)/9]+n^2$ D. $[10(10^n + 1)/9]+n^2$

Q20. Find the sum of the series $1.2 + 2.\ 2^2 + 3.2^3 + \ldots + 100.\ 2^{100}$

A. $100.\ 2^{101} + 2$ B. $99.\ 2^{100} + 2$ C. $99.\ 2^{101} + 2$ D. $100.\ 2^{100} + 2$