OUR OWN HIGH SCHOOL, AL WARQA'A, DUBAI

GRADE: X – ARITHMETIC PROGRESSIONS

ASSIGNMENT 1

1. Find the 7th term from the end of the A P 7, 11, 15, ………….., 107.
2. Determine the value of k so that $(4k + 8)$, $(2k^2 + 3k + 6)$, $(3k^2 + 4k + 4)$ are three consecutive terms of an A P.
3. If 10 times the 10th term of an A P equals 15 times its 15th term, show that the 25th term of the A P is zero.
4. Which term of the A P 32, 29, 26, ………… is its first negative term?
5. The nth term of an A P is given by $(7 – 4n)$. Find the common difference.

ASSIGNMENT 2

1. Find the sum of all natural numbers between 500 and 800 which leave a remainder 2 when divided by 5.
2. How many terms of the A P 19, 17, 15, 13,……….. are needed to get the sum 75? Explain the double answer.
3. A picnic group consists of students whose ages are in A P, the common difference being 3 months. If the youngest student is just 7 years old and the sum of the ages of all the students is 250 years, find the number of students in the group.
4. The sum of three numbers of an A P is 18 and their product is 192. Find the numbers.
5. The sum of n terms of an A P is $5n^2 – 3n$. Find the A P and its nth term.

ASSIGNMENT 3

1. Which term of the A P 5, 13, 21,………… will be 72 less than its 17th term.
2. Find the sum: $3 + 11 + 19 + …………+ 803$
3. An A P consists of 21 terms. The sum of three terms in middle is 129 and of the last three is 237. Find the A P.
4. A thief runs away from a police station with a uniform speed of 100 m/minute. After a minute a policeman runs behind the thief to catch him. He goes at a speed of 100 m/minute in first minute and increases his speed by 10 m each succeeding minute. After how many minutes, the policeman will catch the thief?
5. If m times the mth term of am A P is equal to n times its nth term, find its $(m + n)$th term.

ANSWERS

ASSIGNMENT 1

1. 83   2. 0, 2   4. 12   5. -4

ASSIGNMENT 2

1. 38970   2. 5, 15   3. 25   4. 4, 6, 8 or 8, 6, 4   5. 2, 12, 22,….. ; $a_n = 10n - 8$

ASSIGNMENT 3

1. 8   2. 40703   3. 3, 7, 11, 15   4. 5 minute

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