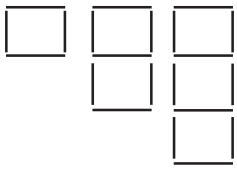
ARITHMETIC SEQUENCE

Work Sheet - 1 **Std X**

Write number sequences

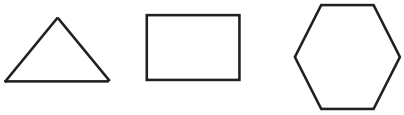
1. **We can make rectangles with sticks as shown in the picture**



Write number of sticks in each rectangle. Calculate the number of sticks needed to make the next three rectangles in the pattern.

2. **Write the sequences of natural numbers which leave remainder 1 on division by 5, and the sequence of natural numbers which leave remainder 2 on division by 5**

3. **Sequence of two digit numbers with equal digits.**

4.  .....

Write the sequence of number of sides

5. **Sequence of two digits ending zero. Describe this sequence in another way.**

Work Sheet - 2

Check whether each of the sequences given below are arithmetic sequence. Give reasons also. Find the common differences of the arithmetic sequence.

1. **Natural numbers which leave remainder 1 on division by 5.**
2. **Natural numbers which leave remainder 2 on division by 5.**
3. **Natural numbers leaving remainder 1 or 2 on division by 5.**
4. **Powers of 3.**
5. **Half of the prime numbers.**
6. **Sequence of two digit numbers with equal digits.**

7. **From the sequence equilateral triangle, square, regular pentagon and so on of regular polygons from the following sequences check whether each of the sequence given below are arithmetic sequences.**
   - **a) Sum of inner angles**
   - **b) Sum of outer angles**
   - **c) An inner angle**
   - **d) An outer angle**

8. **In each of the arithmetic seqences given below, some of the terms are not written. Find out these numbers.**

   1) 6, 22, ……, ……
   2) 6, ……, 22, ……, ……
   3) 6, ……, ……, ……, 22, ……,

Work Sheet - 3

1. **The two terms in specific positions of some arithmetic sequences are given below. Write the first five terms of each**

(1) **3rd term 15, 9th term 39**

(2) **4th term 10, 8th term 50**

(3) **3rd term 14, 5th term 8**

(4) **1st term 16, 5th term 8**

2. **The 8th term of an arithmetic sequence is 29 and its 14th term is 53.**
   - (a) **What is its first term?**
   - (b) **What is the 18th term and 25th term?**

3. **The 5th term of an arithmetic sequence is 15 and its 10th term is 55.**
   - (a) **Write the first five terms of the sequence**
   - (b) **What is the 12th term and 24th term**

4. **The 5th term of an arithmetic sequence is 11 and its 11th term is 5.**
   - (a) **What is the common difference**
   - (b) **Write the first five terms of the sequence**

5. **What is the 25th term of the arithmetic sequence 10, 14, 18, ...**
   - (a) **Is 274 a term? if it is a term, what is the position of the term**
   - (b) **Is 322 a term? if it is a term, what is the position of the term**

6. **What is the 10th term of the arithmetic sequence 7, 10, 13, ...**
   - (a) **Is 101 a term? if it is a term, find the position of the term**
   - (b) **Is 205 a term, if it is a term, find the position of the term**

Work Sheet - 4

1. Th 6^{th} term of an arithmetic sequence is 12. Find the sum of the pairs of terms given below
   (a) 2^{nd} and 10^{th}
   (b) 3^{rd} and 9^{th}
   (c) 1^{st} and 11^{th}
   (d) Find the sum of the first eleven terms of this arithmetic sequence

2. Write four arithmetic sequences with sum of the first five terms 55

3. The sum of the first five terms of an arithmetic sequence is 55.
   (a) What is the 4^{th} term of the sequence
   (b) What is the sum of the 1^{st} and 7^{th} term

4. The sum of the first five terms of an arithmetic sequence is 60 and sum of the first 10 terms is 220.
   (a) What is the 3^{rd} term of the sequence
   (b) What is the 8^{th} term of the sequence
   (c) Write the first 5 terms of the sequence

5. The sum of the 10^{th} and 20^{th} terms of an arithmetic sequence 210. What is its 15th term?

6. The sum of the 8^{th} and 9^{th} terms of an arithmetic sequence is 180. What is the sum of the first 16 terms?

7. First term of an arithmetic sequence is 7 and sum of the first 7 terms is 133.
   (a) What is the 4^{th} term of the sequence?
   (b) Write the first 3 terms of the sequence.

8. First term of an arithmetic sequence is 10 and sum of the first 5 terms is 90.
   (a) What is the 15^{th} term of the sequence
   (b) Is 102 a term? if it is a term, find its position

MULTIPLE CHOICE QUESTIONS

1. What is the 20^{th} term of the arithmetic sequence 100, 97, 94, ...
   (a) 157 (b) −157 (c) 43 (d) −43

2. The sum of the 3^{rd} and 5^{th} terms of an arithmetic sequence is 40. What is the sum of the 2^{nd} and 6^{th} terms?
   (a) 20 (b) 80 (c) 40 (d) 30

3. First term of an arithmetic sequence is 10 and the sum of the first 3 terms is 150. Then the arithmetic sequence is
   (a) 10, 50, 90 (b) 10, 40, 70 (c) 10, 30, 50

Match the following

1.	What is the 15^{th} term of the arithmetic sequence 1, 8, 15, ...	100 99
2.	4^{th} term of an arithmetic sequence is 10. Find the sum of the first 7 terms	70 50

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