

Sum of Arithmetic Sequence Formula

Name: _____

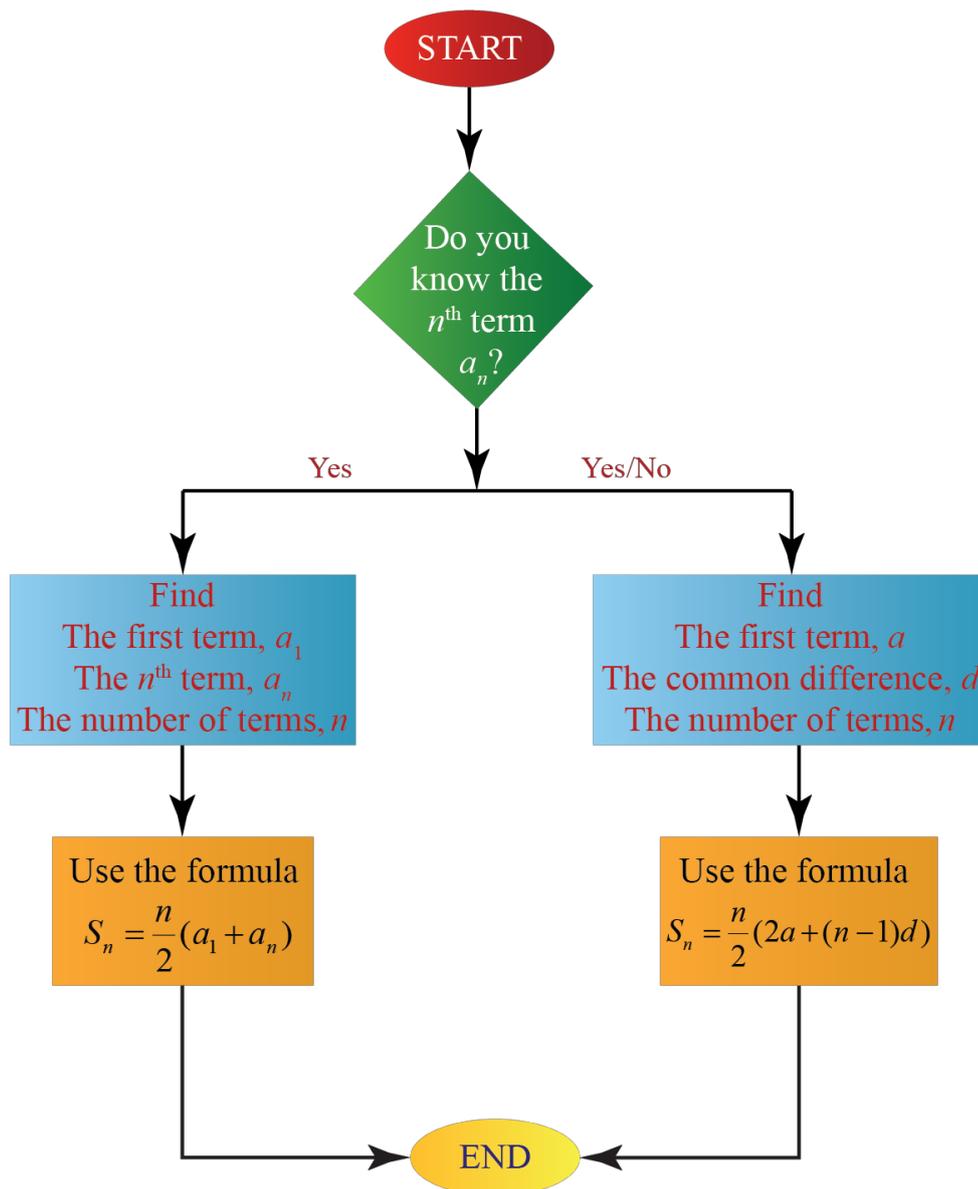
From the previous section, the sum of arithmetic sequence equations are :

$$S_n = \frac{n}{2} (a + a_n)$$
$$= \frac{n}{2} [2a + (n - 1)d]$$

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Let's take a look at the following flowchart to get an idea of the formula that has to be used to find the sum of arithmetic sequence according to the information available to us.



Challenging Questions

Here are some arithmetic sequence questions. Give it a try.

1. The 14th term of an arithmetic sequence is twice its 8th term. If the 6th term is -8, find the sum of its first 20 terms.
2. A man repays a loan of \$57,000 by paying \$650 in the first month and then increasing the payment by \$150 every subsequent month. In how many months can he clear his loan?
3. A vertical structure is made of 99 cuboidal wooden planks with the volume of the bottom-most plank as 48 cubic feet . If the volume of every subsequent plank is less than the previous plank by 5 cubic feet, what is the total volume of the wooden structure?
4. A sum of \$2400 is to be distributed among 6 top participants of a contest. If each prize amount is \$40 less than its preceding amount, find the highest prize amount.