**Exploring Arithmetic Sequences with Calculators**

**Calculator Tip**

We can use calculators to explore, create, and extend arithmetic sequences. Follow the directions below.

* ![Description: [image]]()Type the first number (starting value). Hit **ENTER**.
* Type the operator and the second number. **Ans** will appear on the screen representing your first number. In our example, **Ans** represents 7, the operator is the addition sign, and 5 is the second number.
* Hit **ENTER** repeatedly and your sequence will be displayed.

**Caution:** You cannot save the sequence or scroll up to see earlier values.

1. Find the patterns in the arithmetic sequences below. Write a recursive rule to describe each sequence, and find the next three terms.
2. 7, 12, 17, 22, 27, 32, \_\_\_\_\_, \_\_\_\_\_,\_\_\_\_\_
3. 43, 39, 35, 31, 27, 23, \_\_\_\_\_,\_\_\_\_\_,\_\_\_\_\_
4. 10, 12.5, 15, 17.5, 20, 22.5, \_\_\_\_\_,\_\_\_\_\_,\_\_\_\_\_
5. Use your calculator to generate each sequence, and then find the next three terms.
6. 12, 13.2, 14.4, 15.6, \_\_\_\_\_, \_\_\_\_\_,\_\_\_\_\_
7. 23, 15, 7, -1, \_\_\_\_\_,\_\_\_\_\_,\_\_\_\_\_
8. 3, 6.3, 9.6, 12.9, \_\_\_\_\_,\_\_\_\_\_,\_\_\_\_\_
9. Each problem below can be represented by an arithmetic sequence. Write down the first three terms in the sequence. Then use your calculator to solve the problem.
10. Nate has $323.47 in his piggy bank. He is saving for a used car that costs $1,500. How many months will it take him to have enough to buy the car if he saves an additional $124.82 each month?
11. A fire truck’s water tank holds 4,500 gallons of water. If the water flows out of the tank at 550 gallons per minute, how much will be left in the tank after the trunk pumps water for five minutes?
12. A scientist was observing the growth of a plant. On the first day, it was 2.35 cm tall, and each day it grew 17 mm. How tall was it on the tenth day?
13. Lisa loves to make scrapbooks. She shopped for a new album which cost $24.95 and pages which cost $1.29 each. How many pages could Lisa afford to buy if she had $45 to spend?