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Skillswise factsheet

N1/L1.6

Sequences

A sequence is a set of numbers arranged in order according to a rule. Each number in a sequence is called a **term**.

Multiplication tables give good examples of sequences. For example the 2-times table gives you the sequence

2, 4, 6, 8, 10, 12, 14, 16, 18, 20, ... and so on

Each **term** comes from the 2-times table. The **rule** for this sequence is 'add 2' each time.

The first three terms of the four times table are 4, 8, 12. You can see that each term in the sequence increases by four. If you carried on with this sequence you would eventually reach 92 (try it!).

What is the next term after 92? Using the rule of adding four each time gives you the next term, 96 (because 92 + 4 = 96).

Example What is the next term in the sequence 35, 32, 29, 26, ...?
This time each term is three less than the one before it. Using this rule (take three away each time) gives the fifth term as 23, because 26 - 3 = 23.

Example A sequence begins 64, 32, 16. What are the next two terms?
The numbers are decreasing, but not by equal amounts. The rule for this sequence is 'Divide by two'. The next term will be 8, because 16 ÷ 2 = 8. The term after that will be 4, because 8 ÷ 2 = 4.

Example What are the next two terms in the sequence 1, 2, 4, 8, ?
The rule is 'multiply by 2 each time'. The next two terms are 8 x 2 = 16 and then 16 x 2 = 32.

Example
Look at this sequence: 3, 5, 8, 12, ...
It doesn't follow any of the rules above. But if you look at the differences between each pair of terms, you can see that they are 2, 3 and 4. The next difference will be 5 and so the fifth term is 17, because 12 + 5 = 17.