FIND THE PATTERN AND FOLLOW THE NUMBER SEQUENCE

Description

The purpose of this activity is to complete number sequences and determine patterns using reasoning. For example, 2-4-6-?. You may complete this activity individually or in a small group based on your preferences.

Time Needed

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Learning Setting

Individual or in group activity

Materials Required

- Numerical sequences printed on paper, pens/pencils
- For the online version, you will need a laptop, tablet, or smart phone

Practical Tips

- To ensure an enjoyable and beneficial experience, sequences should be tailored/chosen to the abilities and preferences of the participants.
- It is also possible to do the activity individually but simultaneously with others. After everyone has finished, you can share the results and discuss your reasoning and strategies.
- If necessary, calculators can be used for mathematical operations.
- If you need a hint for a sequence, you can look at the hint sheet and figure out how to proceed.
- When the sequences become too difficult, you can stop.

Learning Objectives

Engaging in sequence completion activities can benefit numerical intelligence skills and cognitive functions in general.

The learning objectives are:

- To enhance logical reasoning
- To improve problem-solving and decision-making abilities
- Memory improvement
- To promote flexible and adaptable thinking
- Concentration maintenance

Step By Step Guidance

1. Decide whether to do this activity individually or in a small group
2. For the offline version, you'll need to print out the sequences and fill them out, while for the online version, you'll need a laptop, tablet, or smart phone.
3. Identify the sequences you want to solve. Sequences are arranged by difficulty level, with the easier sequence starting first.
4. Complete the sequences using reasoning.
5. You can then check your answers.
6. If the activity is completed in a group, you can share your reasoning and patterns.

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Expected Results

This activity is expected to result in:

- Enhanced numerical intelligence skills and cognitive functions in general
- Improved logical reasoning skills
- Better problem-solving and decision-making abilities
- Enhanced memory
- Thinking that is flexible and adaptable.
- Maintenance of concentration
- A sense of accomplishment and increased self-esteem
- Strengthened communication and collaboration skills as you can share strategies and learn from each other

Source

CSI

Some sequences were retrieved from: https://thirdspacelearning.com/gcse-maths/algebra/sequences/

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SEQUENCES

1. 2 - 4 – 6 - 8 - ?
2. 5 – 4 – 3 - 2?
3. 3 – 7 – 11 – 15 -?
4. 6 – 12 – 18 – 24 -?
5. 50 – 45 – 40 – ?
6. 2 – 4 – 8 – 16 -?
7. 2 – 10 – 50 – ?
8. 36 – 18 - 9 – ?
9. 12 – 17 – 22 – 27 -?
10. 128 - 32 - 8 - ?
11. 1 – 3 – 6 - 10 -?
12. 4 – 7 – 11 – 16- ?
13. 40 – 33 – 27 – 22 – 18 – ?
14. 4 – 7 – 12 – 19 -?
15. 5 – 12 – 23 – 38 -?

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HINTS SHEET

Sequence	Hint
1	Add 2
2	Subtract 1
3	Add 4
4	Add 6
5	Subtract 5
6	Multiply by 2
7	Multiply by 5
8	Divide by 2
9	Add 5
10	Divide by 4
11	+2, +3, +4, +5 etc.
12	4+**3** =7, 7+**4**=11, 11+**5**=16, 16+**6**=22 etc.
13	To get the next term in the sequence you subtract a decreasing amount from the preceding term. You subtract **7** from 40 to get 33, then **6** from 33 to get 27, etc.
14	4+**3**=7, 7+**5**=12, 12+**7**=19 (the difference is 2) we find the first difference of the sequence and then the term to rule for the second one. The second difference will always be the same.
15	+7, +11, +15 +19. The difference is +4

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ANSWERS SHEET

Sequence	Answer
1	10
2	1
3	19
4	30
5	35
6	32
7	250
8	4.5
9	32
10	2
11	15
12	22
13	15
14	28
15	57

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