Classifying Sequences

A sequence is **strictly increasing** if the terms are always increasing, i.e.

for all .

*e.g.*

Similarly a sequence is **strictly decreasing** if for   
all

A sequence is **periodic** if the terms repeat in a cycle. The **order** of a sequence is **how often it repeats**, i.e. for all .

*e.g. 2, 3, 0, 2, 3, 0, 2, 3, 0, 2, … is periodic and has order 3.*

Examples

For each sequence:

1. State whether the sequence is increasing, decreasing or periodic.
2. If the sequence is periodic, write down its order.

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