- Back to the list

$$2, 5, 8, 11, 14, 17, 20, 23, 26, \ldots$$

- These numbers are all equivalent to 2 modulo 3.
- Notice that each "number difference" is 3.
- By the theorem $n \equiv 2 \pmod{3} \iff 3|(n-2)$,
    - which means $n - 2 = 3k$ for some $k \in \mathbb{Z}$,
    - which gives the formula $n = 3k + 2$.

In general, the set of all numbers that are congruent to k modulo n is given (explicitly) by the formula

$$\alpha n + k, \alpha \in \mathbb{Z}.$$