Tens and Units

Choose any two-digit number as the first term in a sequence. Add its tens digit to twice its units digit to get the second term of the sequence. Repeat this process to get the third term from the second term.

For example, the sequence beginning with 16 is:

16
$1 + (2 \times 6) = 13$
$1 + (2 \times 3) = 7$
$0 + (2 \times 7) = 14$
$1 + (2 \times 4) = 9$
and so on.

Questions that can be created from the aformentioned problem are the following:

1. Will the difference between the terms of the sequence be uniform for any two-digit number?
2. Will the sequence be finite?
3. If the sequence will be finite, what would be the final term?

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