Patterns for Factors and Multiples

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Context
Our world is made up of patterns. This is a simplified method of knowing multiples and factors of numbers using repeated patterns.

$$\left(x\sqrt{x}\right)^2 = x^3$$

Method
The analysis used patterns to identify number multiples, squares and factors.

Power patterns for "5 & 6"

If 5 & 6 are raised to a power, the unit of the answer is always the same number.

$5^2=2\underline{\textbf{5}}$ $6^2=3\underline{\textbf{6}}$
$5^3=12\underline{\textbf{5}}$ $6^3=21\underline{\textbf{6}}$
$5^4=62\underline{\textbf{5}}$ $6^4=129\underline{\textbf{6}}$
$5^5=312\underline{\textbf{5}}$ $6^5=777\underline{\textbf{6}}$
$5^6=1562\underline{\textbf{5}}$ $6^6=4665\underline{\textbf{6}}$

In all number patterns, any time "5" is raised to any power, the unit of the number must be **"5"**, likewise, any time "6" is raised to any power, the unit must be **"6".**

Consecutive Power patterns

If a number is raised to a power consecutively the units will develop a pattern.

$2^1=\underline{\textbf{2}}$ $2^2=\underline{\textbf{4}}$
$2^3=\underline{\textbf{8}}$ $2^4=1\underline{\textbf{6}}$
$2^5=3\underline{\textbf{2}}$ $2^6=6\underline{\textbf{4}}$
$2^7=12\underline{\textbf{8}}$ $2^8=25\underline{\textbf{6}}$

   2= **2 , 4, 8, 6**
   3= **3, 9, 7, 1**
   4= **4, 6**
   7= **7, 9, 3, 1**
   8= **8, 4, 2, 6**
   9= **9, 1**

Consecutively raising a number continuously, gives the **unit** of the answers a pattern.

Square pattern

All the squares increase with odd numbers.

1= first odd number 0+1=1∴ 1 is the square of 1,
1+3=4 ∴ 4 is the square of 2,
4+5=9 ∴ 9 is the square of 3,
9+7=16 ∴ 16 is the square of 4,
16+9=25∴25 is the square of 5,
25+11=36∴36 is the square of 6,
36+13=49∴49 is the square of 7,
49+15=64∴64 is the square of 8,
64+17=81∴81 is the square of 9,
81+19=100∴100 is the square of 10

Squares of numbers are obtained by adding next odd number to the last square.

Multiplication Pattern for "9"

Ascending	Descending	Merge	Sum
0	9	09	9
1	8	18	9
2	7	27	9
3	6	36	9
4	5	45	9
5	4	54	9
6	3	63	9
7	2	72	9
8	1	81	9
9	0	90	9

Note also that, that when a number is divisible by 9 then the sum of its digits is also divisible by 9.