Title: Sum of simple prime numbers
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Abstract: This paper develops the formula that calculates the sum of simple prime numbers by golden pattern.

Keywords: Golden Pattern, rough number, prime number, simple prime number.

Golden patterns

All the golden patterns have the same characteristics, (harmony, equilibrium, balance, etc) for which I have discovered a formula to calculate the sum of simple prime numbers by Golden patterns.

Formula to calculate the sum of simple prime numbers by Golden Patterns.

The simple prime numbers are known as the rough numbers.

$$\sum Simple\ Prime\ Numbers = (Pt * \frac{Nps}{2}) * Npt$$

Nps = quantity of simple prime numbers that exist by golden patterns.
http://vixra.org/abs/1803.0178

Pt = Size of the Golden pattern
http://vixra.org/abs/1803.0121

Npt=Number of pattern (Golden Pattern *1, Pattern two *3, Pattern three *5, Pattern four *7, etc.)
It is always multiplied by Odd numbers.

Demonstration

A) Example: 3-Golden Pattern

$3 - Golden\ Pattern\ \sum_1^{18} Simple\ Prime\ Numbers = (18 * \frac{6}{2}) * 1 = 54$

$Pattern\ 2 \sum_{19}^{36} Simple\ Prime\ Numbers$ = $(18* \frac{6}{2}) * 3 = 162$

$Pattern\ 3 \sum_{37}^{54} Simple\ Prime\ Numbers$ = $(18* \frac{6}{2}) * 5 = 270$

The difference within every pattern is equal to the sum of simple prime number-3 of **3-Golden Pattern** multiplied by two (108).

B) Example: 5-Golden Pattern

$5 - Golden\ Pattern \sum_{1}^{90} Simple\ Prime\ Numbers$ = $(90* \frac{24}{2}) * 1 = 1.080$

$Pattern\ 2 \sum_{91}^{180} Simple\ Prime\ Numbers$ = $(90* \frac{24}{2}) * 3 = 3.240$

$Pattern\ 3 \sum_{181}^{270} Simple\ Prime\ Numbers$ = $(90* \frac{24}{2}) * 5 = 5.400$

The difference within every pattern is equal to the sum of simple prime number-5 of **5-Golden Pattern** multiplied by two (2.160).

C) Example: 7-Golden Pattern

$7 - Golden\ Pattern \sum_{1}^{630} Simple\ Prime\ Numbers$ = $(630* \frac{144}{2}) * 1 = 45.360$

$Pattern\ 2 \sum_{631}^{1.260} Simple\ Prime\ Numbers$ = $(630* \frac{144}{2}) * 3 = 136.080$

$Pattern\ 3 \sum_{1.261}^{1.890} Simple\ Prime\ Numbers$ = $(630* \frac{144}{2}) * 5 = 226.800$

The difference within every pattern is equal to the sum of simple prime number-7 of **7-Golden Pattern** multiplied by two (90.720).

D) Example: 11-Golden Pattern

$11 - Golden\ Pattern \sum_{1}^{6.930} Simple\ Prime\ Numbers$ = $(6.930* \frac{1.440}{2}) * 1 = 4.989.600$

$Pattern\ 2 \sum_{6.931}^{13.860} Simple\ Prime\ Numbers$ = $(6.930* \frac{1.440}{2}) * 3 = 14.968.800$

$Pattern\ 3 \sum_{13.861}^{20.790} Simple\ Prime\ Numbers$ = $(6.930* \frac{1.440}{2}) * 5 = 24.948.000$

The difference within every pattern is equal to the sum of simple prime number-11 of **11-Golden Pattern** multiplied by two (9.979.200).

E) Example: 13-Golden Pattern

$13 - Golden\ Pattern\ \sum_{1}^{90.090} Simple\ Prime\ Numbers$ = (90.090* $\frac{17.280}{2}$) $* 1 = 778.377.600$

$Pattern\ 2 \sum_{90.091}^{180.180} Simple\ Prime\ Numbers$ = (90.090* $\frac{17.280}{2}$) $* 3 = 2.335.132.800$

$Pattern\ 3 \sum_{180.181}^{270.270} Simple\ Prime\ Numbers$ = (90.090* $\frac{17.280}{2}$) $* 5 = 3.891.888.000$

The difference within every pattern is equal to the sum of simple prime number-13 of 1**3-Golden Pattern** multiplied by two (1.556.755.200).

We can continue adding more examples with other Golden Patterns

	Size of the Golden Pattern	Simple Prime numbers	Summation
	Pt	Nps	**Golden Pattern** $\sum$ *Simple Prime numbers*
3-Golden Pattern	18	6	**54**
5-Golden Pattern	90	24	**1.080**
7-Golden Pattern	630	144	**45.360**
11-Golden Pattern	6.930	1.440	**4.989.600**
13-Golden Pattern	90.090	17.280	**778.377.600**

Table 1

To obtain information on how to calculate the size of the Golden Patterns, you can enter: http://vixra.org/abs/1803.0121

To obtain information on how to calculate the quantity of simple prime numbers that exist by golden patterns, you can enter: http://vixra.org/abs/1803.0178

	Summation		G. Pattern= Golden Pattern
	Golden Patterns $\sum$ *Simple Prime n.*	R= Relationship with the previous	**R= G. Pattern*(G. Pattern-1)**
3-Golden Pattern	**54**		
5-Golden Pattern	**1.080**	**R=1080 /54= 20**	**R= 20=5*4**
7-Golden Pattern	**45.360**	**R=45360/1080= 42**	**R= 42=7*6**
11-Golden Pattern	**4.989.600**	**R=4.989.600/45360=110**	**R= 110=11*10**
13-Golden Pattern	**778.377.600**	**R=778.377.600/4.989.600=156**	**R= 156=13*12**

Table 2

Final conclusion

The formula is a simple method that helps us to decipher the sum of the simple prime numbers that exist by pattern. All Golden Patterns are closely linked, and this formula manages to connect absolutely to all of them.

This Paper is extracted from my book The Golden Pattern II
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