# Two conjectures on sequences of primes obtained from the lesser term from a pair of twin primes

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**Abstract.** In this paper I make two conjectures about two types of possible infinite sequences of primes obtained starting from any given prime which is the lesser term from a pair of twin primes for a possible infinite of positive integers which are not of the form 3*k - 1 respectively starting from any given positive integer which is not of the form 3*k - 1 for a possible infinite of lesser terms from pairs of twin primes.

**Conjecture 1:**

There exist an infinity of primes q of the form q = 2*k*p + 1, where p is a lesser prime from a pair of twin primes, for any positive integer k, under the condition that k has not the digital root equal to 2, 5 or 8.

**Examples:**
(Of such primes q, for k = 1)

: for p = 18406781, q = 36813563 prime;
: for p = 18407771, q = 36815543 prime;
: for p = 18408749, q = 36817499 prime.

**Examples:**
(Of such primes q, for k = 3)

: for p = 18403277, q = 110419663 prime;
: for p = 18408287, q = 110449723 prime;
: for p = 18408581, q = 110451487 prime.

**Examples:**
(Of such primes q, for k = 4)

: for p = 18408287, q = 147250553 prime;
: for p = 18406319, q = 147266969 prime.

**Examples:**
(Of such primes q, for k = 6)

: for p = 18405719, q = 220868629 prime;
: for p = 18405731, q = 220868773 prime.

**Examples:**
(Of such primes q, for k = 7)

:  for p = 18406979, q = 257697707 prime;
:  for p = 18408107, q = 257713499 prime.

**Examples:**
(Of such primes q, for k = 9)

:  for p = 18408749, q = 331357483 prime;
:  for p = 18408989, q = 331361803 prime.

**Conjecture 2:**

There exist an infinity of primes q of the form q = 2*k*p + 1, where k is a positive integer which digital root is not equal to 2, 5 or 8, for any p lesser prime from a pair of twin primes.

**Examples:**
(Of such primes q, for p = 11)

:  for k = 1,  q = 23  prime;
:  for k = 3,  q = 67  prime;
:  for k = 4,  q = 89  prime;
:  for k = 9,  q = 199  prime;
:  for k = 15,  q = 331  prime;
:  for k = 16,  q = 353  prime;
:  for k = 19,  q = 419  prime;
:  for k = 21,  q = 463  prime;
:  for k = 28,  q = 617  prime;
:  for k = 30,  q = 661  prime;
:  for k = 31,  q = 683  prime;
:  for k = 33,  q = 727  prime;
:  for k = 39,  q = 859  prime;
:  for k = 40,  q = 881  prime;
:  for k = 43,  q = 947  prime;
:  for k = 45,  q = 991  prime;
:  for k = 46,  q = 1013  prime;
:  for k = 51,  q = 1123  prime.
   (...)

**Examples:**
(Of such primes q, for p = 18408749)

:  for k = 1,  q = 36817499  prime;
:  for k = 9,  q = 331357483  prime;
:  for k = 25,  q = 920437451  prime.
   (...)