Title	Twin Prime Conjecture
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Abstract

The Twin Prime Conjecture states there are infinitely many pairs of primes that differ by 2.

Examples of twin primes are:

11, 13
71, 73
5021, 5023

Method

This attempt uses Bertrand’s postulate.

Bertrand’s (proven) Postulate states that for any number n>1 there is always a prime between n and 2n.

https://en.wikipedia.org/wiki/Proof_of_Bertrand%27s_postulate (B)

Thus for a prime P the next prime is in the set of odd numbers:

$$\{P+2, P+4, \dots , P+P-1\} \quad (S)$$

In other words the difference between P and the next prime is in:

$$\{2, 4, \dots, P-1\}$$

Although there is no algorithm to predict the likelihood which member in (S) is the next prime there is nothing in (B) to indicate any member of (S) has zero likelihood of occurring for a given prime P.

Hence the likelihood (probability) of a difference of 2 between P and the next prime is >0 and since the number of primes (P) is infinite so is the number of twins or any other difference for that matter.

This appears evidenced by the following table where the frequency of a difference of 2, i.e. twin primes, decreases with increasing prime count.

(T)wins	(P)rimes	T/P
60	300	.200
116	600	.193
145	800	.181
175	1000	.175