

Refutation of the Bertrand postulate and Bertrand-Chebyshev theorem

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We assume the apparatus and method of Meth8/VL4, with

From: en.wikipedia.org/wiki/Bertrand%27s_postulate, the Bertrand postulate:

[F]for every $n > 1$, there is always at least one prime p such that $n < p < 2n$. (1.1)

LET: $p < q < 2p$; $(p < q) \rightarrow 1$; $(p < 2q) \rightarrow 2$

$\neg(q < (p < q)) \rightarrow \neg((q < p) \wedge \neg(p < (q < 2q)))$; cccc cccc cccc cccc (1.2)

From: proofwiki.org/wiki/Bertrand-Chebyshev_Theorem, Bertrand-Chebyshev theorem:

For all $n \in \mathbb{N} > 0$, there exists a prime *number* p with $n < p \leq 2n$. (2.1)

LET: $r \in \mathbb{N}$; $\neg(q < p) \rightarrow p \leq q$

$(q < r) \rightarrow \neg((q < p) \wedge \neg(p < (q < 2q)))$; TTCC TTTT TTCC TTTT; (2.2)

Eqs. 1.2 and 2.2 as rendered are *not* tautologous, meaning both Bertrand expressions are suspicious.