

# A Proof of Bertrand's Postulate

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## Abstract

We give an elementary proof of Bertrand's Postulate following an approach inspired by Ramanujan. Using properties of the von Mangoldt function and the Chebyshev functions, we show that  $\theta(x) - \theta(x/2) > 0$  holds beyond an explicit bound and we verify the remaining cases directly. This completes the proof.

**MSC Number:** 11A41

**Keywords:** Bertrand's Postulate, the von Mangoldt function, Chebyshev functions

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## References

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