Hardy & Wright: *An Introduction to Number Theory*

Section XXIII: Kronecker’s Theorems

Theorem 438. If \( \theta \) is irrational, \( \alpha \) is arbitrary, and \( N \) and \( \epsilon \) are positive, then there are integers \( n \) and \( p \) such that \( n > N \) and

\[
|n\theta - p - \alpha| < \epsilon
\]

(23.1.2)

Theorem 439. If \( \theta \) is irrational, then the set of points \( (n \theta) = n \theta - [n \theta] \) is dense in the interval \((0,1)\).