Hardy & Wright: *An Introduction to Number Theory*

Section XXIII: Kronecker's Theorems

Theorem 438. If q is irrational, a is arbitrary, and N and e are positive, then there are integers n and p such that $n > N$ and

(23.1.2) $$| nq - p - a | < e$$

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