

1154-11-1168 **Andrew Simoson*** (ajsimoso@king.edu), King University, 1350 King College Road, Bristol, TN 37620. *A gold version of Dirichlet's bronze approximation theorem.*

Call a reduced fraction $\frac{p}{q}$ *bronze*, *silver*, or *gold* with respect to an irrational number ω if $|\omega - \frac{p}{q}|$ is less than $\frac{1}{q^2}$, $\frac{1}{2q^2}$, and $\frac{1}{\sqrt{5}q^2}$, respectively. Dirichlet proved that there are an infinite number of bronze fractions for ω , and Hurwitz proved the same result with respect to gold. More recently, W. Bosma discovered a recursion generating only silver or gold fractions. We present a similar recursion generating only gold fractions. (Received September 13, 2019)