

Undergraduate Mathematics Colloquium

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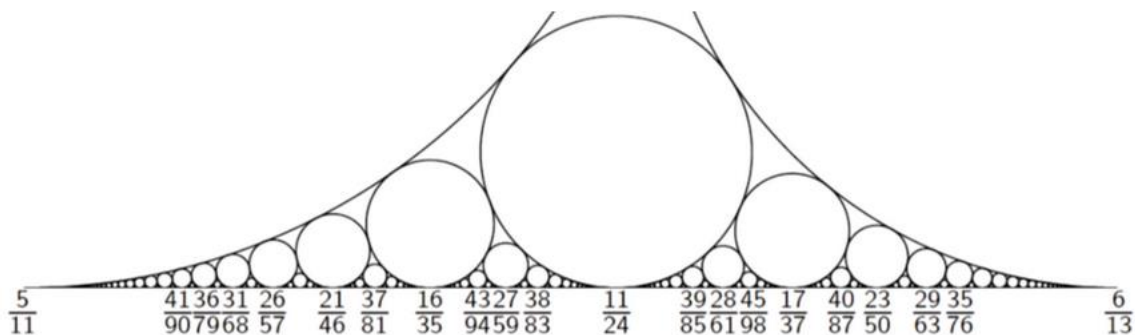
“Ford Circles”

Friday October 27

Talk at 4:00 in Herman Brown 227

Tea & cookies at 3:30 in Herman Brown 438

ABSTRACT: Let p and q be relatively prime positive integers with $p < q$. A Ford circle $C(p/q)$ is a circle lying in the upper half plane tangent to the point p/q (see the picture) on the real line with radius $1/2q^2$. We will show you some interesting features of Ford circles. They never intersect each other. The sum of the areas of the Ford circles is computable and equal to $\pi \zeta(3)/4 \zeta(4)$ (where ζ is the Riemann zeta function). If time permits, we will describe the method to count the Ford circles up to a given radius.



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