Re: Pi/3 the only fraction of the circle with a rational projection

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- *From*: Gerry Myerson <gerry@xxxxxxxxxxxxxxxxxxxxxxxxx>
- *Date*: Thu, 10 Apr 2008 03:16:59 GMT

In article
<2dd83b53−c414−4172−ac9c−c4dd7781a0e6@xxxxxxxxxxxxxxxxxxxxxxxxxxx>,
amado.alves@xxxxxxxxx wrote:

> I find it extremely intriguing that a simple fraction of the circle
> should project upon a simple fraction of the radius: sin(Pi/3) = 1/2.
>
> And furthermore I intuit that this is the only projection with
> integral fractions on both sides of the equation. (Ignoring the
> geometrically trivial cases sin(0), sin(Pi/2), and the equivalent
> cases cos(Pi/6), etc.)

Much more is known. I wrote a paper almost 20 years ago
in which I found all rational x, y, z, w such that
(sin pi x) (sin pi y) (sin pi z) (sin pi w) is rational.

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Gerry Myerson (gerry@xxxxxxxxxxxxxxx) (i −> u for email)
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