Right triangle in wich the sum of the legs is close to Pi .

Alberto Coe

Email : Albamv8@hotmail.com

Abstract

Using elementary geometry , we have performed an approach to Pi value . This agrees to the fifth decimal place .

Keywords : Pi , approximation , right triangle .

Method and result .

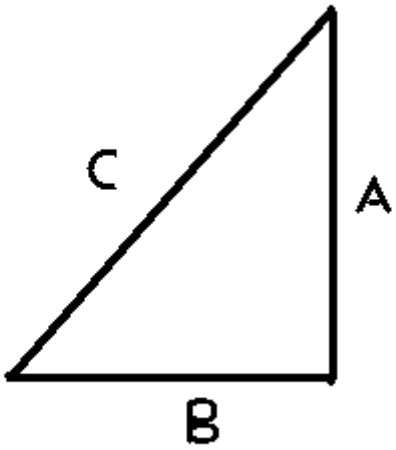


Figure 1

First we make the triangle depicted in figure 1 :

Cathetus A = 1

Cathetus B = $\frac{\sqrt{2}}{2}$

Hypotenuse C = $\sqrt{1+\frac{1}{2}}$

Now we perform the following operations :

$$j = \frac{1}{\sqrt{1+\frac{1}{2}}}$$

$$g = j\sqrt{2}$$

$$g + j = \frac{1+\sqrt{2}}{\sqrt{1+\frac{1}{2}}}$$

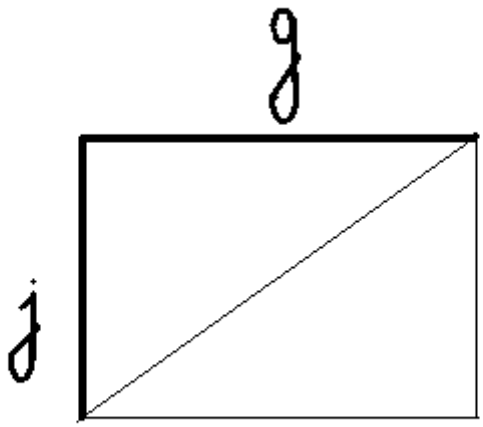
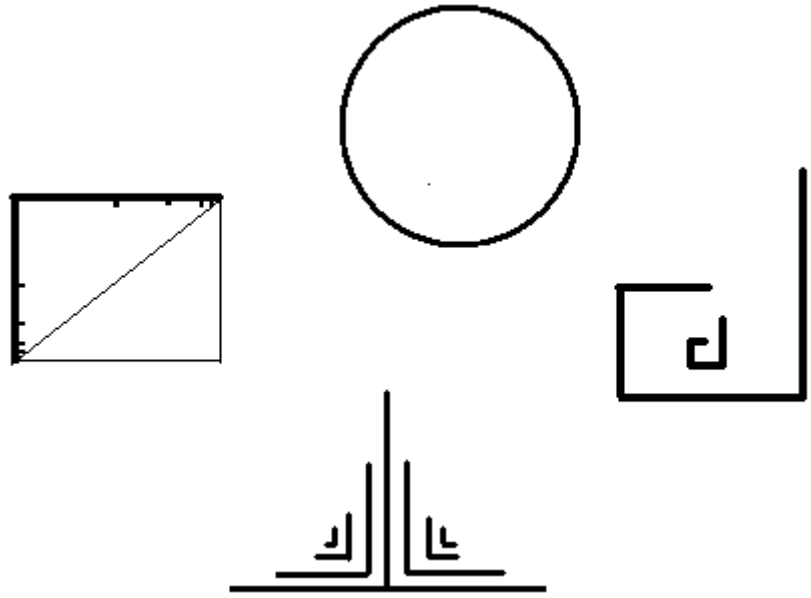


Figure 2 . values g and j .

And now we will write the approximation to Pi :

$$\Pi \approx (g + j)1 + \frac{1}{2} + \frac{1}{16} + \frac{1}{32}$$

wich is correct to five decimal places of Pi .



Fifure 3 . shows several ways to depict graphically the number Pi as described above .