

Cinquefoil Knot*

Parametric Formulas for the Cinquefoil Knot:

$$P.x := (2 - \cos(2 t/(2 aa + 1))) \cdot \cos(t);$$

$$P.y := (2 - \cos(2 t/(2 aa + 1))) \cdot \sin(t);$$

$$P.z := -\sin(2 t/(2 aa + 1));$$

The choice $aa = 1$ gives a Trefoil knot, $aa = 2$ the Cinquefoil, and in general $aa = k$ gives the $(2k+1)$ -foil knot (the program rounds aa before using it). The parameter range for t should be 0 to $(4 k + 2) \pi$. If you change aa in the Set Parameters... dialog, then these values of $tMin$ and $tMax$ are set also, but you can change them later in the Set t,u,v Ranges... dialog.

A nice animation of the Cinquefoil knot can be obtained by first choosing **Show As Tube** from the Action menu, **Anaglyph Stereo Vision** from the View menu, and then **Rotate** from the Animation menu.

R.S.P.

* This file is from the 3D-XplorMath project. Please see:

<http://3D-XplorMath.org/>