$$(x-i)^{36} + (x+i)^{36} = 0$$

$$(x+i)^{36} = -(x-i)^{36}$$

$$z_k^{36} = -1$$

$$|z_k| = \sqrt{1} = 1$$

$$z_k^{36} = \cos \pi + i \sin \pi$$

$$z_k = \sqrt[36]{\cos \pi + i \sin \pi}$$

$$z_k = \sqrt[36]{\cos \pi + i \sin \pi}$$

$$z_k = \cos \frac{\pi + 2k\pi}{36} + i \sin \frac{\pi + 2k\pi}{36}$$

$$y = z_k, k = 0, 1, \dots, 35$$

$$\frac{x+i}{x-i} = y$$

$$x+i = y(x-i)$$

$$x+i = yx-yi$$

$$i+yi = yx-x$$

$$(1+y)i = (y-1)x$$

$$x = \frac{(y+1)i}{(y-1)}$$