$$\tfrac{1}{2}x + \tfrac{\pi}{3} = \tfrac{1}{2}x + \tfrac{2\pi}{2\cdot 3} = \tfrac{1}{2}\left(x + \tfrac{2\pi}{3}\right)$$

$y = \cot(x)$

$y = \cot\left(\tfrac{1}{2}x\right)$

$y = \cot\left(\tfrac{1}{2}\left(x + \tfrac{2\pi}{3}\right)\right)$

$2\pi - \tfrac{2\pi}{3} = \tfrac{4\pi}{3}$ $4\pi - \tfrac{2\pi}{3} = \tfrac{10\pi}{3}$