$$\frac{\pi}{x} - 2\pi \left\lfloor \frac{1}{2x} \right\rfloor - 2\pi \left(\left\lfloor \frac{1}{2x} \right\rfloor \bmod 2 \right) = \sin\frac{\pi}{x} + \left(\frac{4}{3} + A(x) \right)\left(2\sin\frac{\pi}{2x} - \sin\frac{\pi}{x} \right)$$

$$A(x) = \cfrac{\frac{2}{3}\cdot B(x)}{5 - \cfrac{3\cdot 5\cdot B(x)}{7 - \cfrac{1\cdot 1\cdot B(x)}{9 - \cfrac{4\cdot 7\cdot B(x)}{11 - \cfrac{2\cdot 3\cdot B(x)}{13 - \cfrac{5\cdot 9\cdot B(x)}{15 - \cfrac{3\cdot 5\cdot B(x)}{17 - \cfrac{6\cdot 11\cdot B(x)}{19 - \cfrac{4\cdot 7\cdot B(x)}{21 - \ddots}}}}}}}}}$$

$$B(x) = 1 - \cos\frac{\pi}{2x}$$