

From Monday: $1 - \frac{1}{3} + \frac{1}{5} - \frac{1}{7} + \dots = 0.68\dots$

Taylor series for $\arctan(x)$:

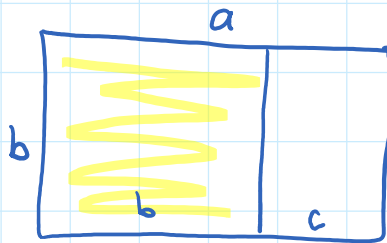
$$\arctan(x) = x - \frac{x^3}{3} + \frac{x^5}{5} - \frac{x^7}{7} + \dots$$

Let $x=1$: $\frac{\pi}{4} = \arctan(1) = 1 - \frac{1}{3} + \frac{1}{5} - \frac{1}{7} + \frac{1}{9} - \dots$

$$\pi = 4 \left(1 - \frac{1}{3} + \frac{1}{5} - \frac{1}{7} + \frac{1}{9} - \dots \right)$$

③ Golden Ratio:

$$\phi = 1.618\dots$$



$$\frac{a}{b} = \frac{b}{c} = \phi$$

$$c = a - b$$