

## The Golden Ratio $\phi$

$$\phi = \frac{1+\sqrt{5}}{2}$$

$$\phi = \sqrt{1 + \sqrt{1 + \sqrt{1 + \sqrt{1 + \dots}}}}$$

$$\phi = 1 + \frac{1}{1 + \frac{1}{1 + \dots}}$$

$$\phi = \frac{1}{\phi} + \frac{1}{\phi^2} + \frac{1}{\phi^3} + \frac{1}{\phi^4} + \dots$$

$$\phi^{-1} = \phi - 1$$

$$\phi^2 = \phi + 1$$