Wentao Lu

1. Who prove pi is irrational?

Johann Heinrich Lambert

Who prove pi is transcendental?

Ferdinand von Lindemann

prove $\sqrt{3}$ is irrational.

$\sqrt{3} = \frac{p}{q} \Rightarrow 3 = \frac{p^2}{q^2} \Rightarrow 3q^2 = p^2$ ~~$\Rightarrow 2q^2 = (p+q)(p-q)$~~

Assume $p = 3k \Rightarrow 3q^2 = 9k^2 \Rightarrow \frac{q^2}{3} = k^2$

so 3 both divide p and q and p, q are not co-prime.

so $\sqrt{3}$ is irrational.

Why $\frac{355}{113}$ important and famous

because it is really close to pi

2. $$\frac{11}{4} = 2 + \frac{1}{1 + \frac{1}{3}}$$