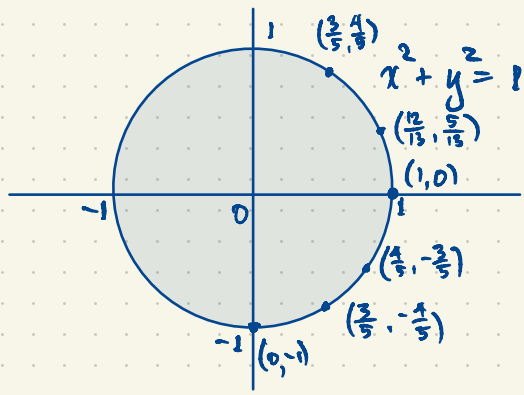


# Number Theory

Book 1



How many points on the circle  $x^2 + y^2 = 1$  ( $x, y \in \mathbb{Q}$ ) have rational number coordinates?

Not  $(\frac{1}{2}, \frac{\sqrt{3}}{2})$

Are there infinitely many "rational points" on the unit circle?

$(\frac{3}{5}, \frac{4}{5}) \leftrightarrow 3^2 + 4^2 = 5^2$  solution of  $x^2 + y^2 = z^2$  ( $x, y, z \in \mathbb{Z}$ )